

BEST PHOTOS | OF THE YEAR

TIME



Ultraviolet light reveals a human handprint on the shell of a green sea turtle—demonstrating a cutting-edge technique that can be used for capturing forensic evidence against poachers and animal traffickers

Photograph by
Britta Jaschinski

Vincent van Gogh © Musée d'Orsay, Dist. Grand Palais Rm / Patrice Schmidt



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Best Photographs

Through the most evocative, noteworthy, and striking images of 2025, TIME's photo department tells the story of the year that was

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Time Off

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Cherry blossoms at the Tidal Basin in Washington, D.C., on March 27
Photograph by Matt McClain—The Washington Post/Getty Images

TIME (ISSN 0040-781X) is published twice a month (except monthly in January and August) by TIME USA, LLC. **PRINCIPAL OFFICE:** 3 Bryant Park, New York, NY 10036. Periodicals postage paid at New York, N.Y., and additional mailing offices. **POSTMASTER:** Send all UAA to CFS (See DMM 507.1.5.2); **Non-Postal and Military Facilities:** Send address corrections to TIME Magazine, PO Box 37508, Boone, IA 50037-0508. Canada Post Publications Mail Agreement # 40069223. BN# 704925882RT0001. © 2025 TIME USA, LLC. All rights reserved. Printed in the U.S.A. **CUSTOMER SERVICE AND SUBSCRIPTIONS:** For 24/7 service, please use our website: www.time.com/myaccount. You can also call 1-800-843-8463 or write TIME Magazine, PO Box 37508, Boone, IA 50037-0508. Reproduction in whole or in part without written permission is strictly prohibited. Your bank may provide updates to the card information we have on file. You may opt out of this service at any time.



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Vincent van Gogh created a new way to paint the world he saw, becoming recognized long after his death for achieving some of the most beautiful works in art history.

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Health talk

As part of the TIME100 Talks series, TIME senior health correspondent Alice Park moderated a panel on Nov. 12 in New York City with, from left, Raj Panjabi, a former Biden White House official who works for Flagship Pioneering; fitness influencer Jillian Michaels; and Nir Barzilai of Albert Einstein College of Medicine. Presented by Shaklee, the discussion covered longevity, the safety of vaccines, and the latest research on weight-loss drugs. Read more about the conversation at time.com/health-talk



On the covers



Photograph by
Robyn Beck—AFP/
Getty Images



Photograph by
Britta Jaschinski

Turn to the back for a
panoramic foldout
presented by
The Macallan

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SETTING THE RECORD STRAIGHT

In “Mind Meld” (Nov. 24) we mischaracterized the history of Prima; the technology has been in development since 2004.

Branding 101

During a Nov. 18 TIME100 Talks event in New York City, presented by PMI U.S., branding experts discussed the future of the industry and the importance of authenticity and consistency in building trust with consumers: from left, Katy Milkman, professor at the Wharton School of the University of Pennsylvania; Nuno Leal of Ernst & Young; Dara Treseder of Autodesk; and moderator Nikhil Kumar. Read more at time.com/brand-talk



Best books 2025

Just in time for the holiday shopping season, bookmark TIME's list of the year's 100 must-read books. Curated by TIME staffers, the roundup features the best in fiction, nonfiction, and poetry. See the full list at time.com/books-2025



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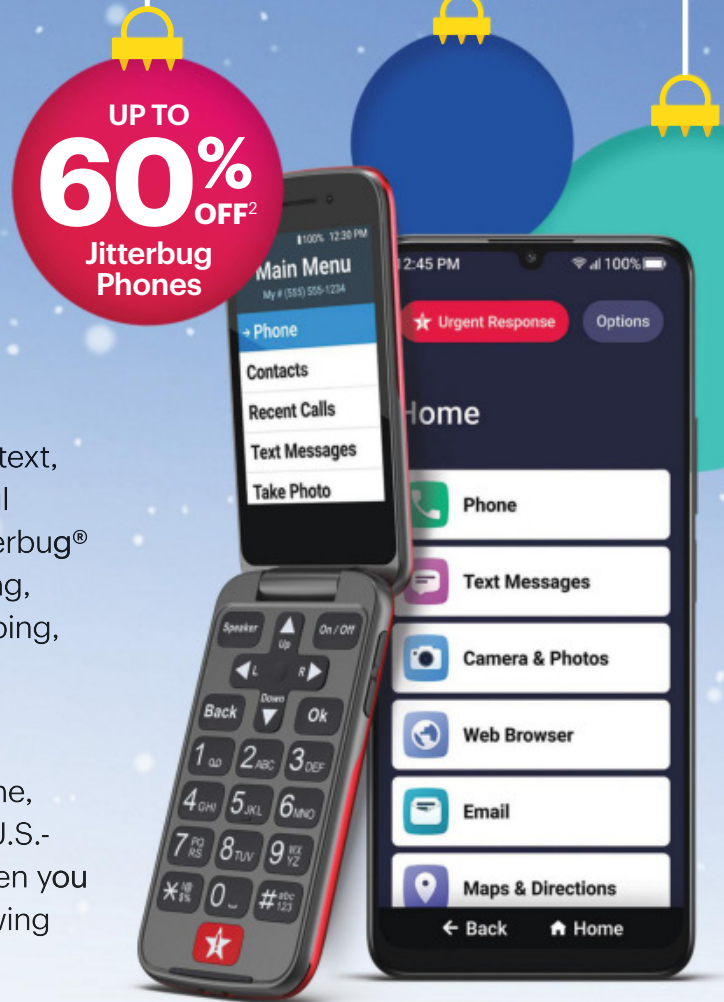
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The Brief

THE EPSTEIN REVERSAL

BY PHILIP ELLIOTT

In the file-release
bill, Trump
confronts losing
his grip on the
movement he started

INSIDE

WHAT A 50-YEAR
MORTGAGE COULD MEAN

JAMES WATSON'S
COMPLICATED LEGACY

WHERE U.S.
LEADERS ARE MADE

DONALD TRUMP READ HIS SITUATION WITH a clear eye, and pivoted. As autumn deepened, he was hemorrhaging support among Republicans over his obstinance on releasing all the files the Department of Justice had swept up in its investigations of disgraced financier and convicted sex offender Jeffrey Epstein. The President's efforts to deflect were being met with equal parts outrage and ridicule.

Trump faced a choice: shift his stance to align with those he had spent a decade nurturing, or stay defiant and pledge to veto a disclosure bill if it ever got to his desk. This was not a fight he could win through simple bravado.

So, in response to pushback from his own base, Trump blinked. The House on Nov. 17 passed the release-it-all bill with only one no vote, and the Senate followed unanimously hours later—and Trump didn't take long to sign it into law. It may be a sign that the Make America Great

Again movement is outgrowing the man who built it into a dominant political force. Representative Thomas Massie, a Kentucky Republican who forced the issue over the wishes of GOP leadership, cast the win as one for the forgotten man who made Trump's comeback possible. "My quest to force a vote on releasing the Epstein files is not about incriminating the President," Massie says.

For years, MAGA was whatever Trump said it was. His followers shifted their positions, sometimes repeatedly, on issues like trade, foreign conflicts, and who counted as a political enemy, based on what Trump said was MAGA orthodoxy.

But the latest turn in the Epstein saga may presage a bigger development than a mere political slapdown; it may indicate that the Make America Great Movement is evolving beyond fealty to an individual, morphing from a cult of personality into a more fully formed ideology that could actually outlast its founder.

This is not all that unusual. The MAGA-verse formed around Trump but may prove no more a monolith than the Student Nonviolent Coordinating Committee was in the 1960s. Movements as different as the Tea Party and Black Lives Matter are themselves different today from when they started. Beliefs harden, tactics shift, loyalties are tested. A leader who doesn't read the room will suffer the consequences. Ideology is stronger than argument, and power proves portable.

THE EPSTEIN SAGA stewed for weeks until Nov. 12, when Democrats forced Trump's hand with the release of three combustible emails in which Epstein alleged Trump had spent hours with one of the victims and

"of course he knew about the girls." Hours later, House Republicans responded with 20,000 other messages obtained from the Epstein estate. Trump's effort to swerve on Nov. 14 by appointing a special prosecutor to go after Epstein's connections to former President Bill Clinton, his Treasury Secretary Larry Summers, and big banks gained zero traction.

So two days later, the President took the only off-ramp available: he said he wanted House Republicans to pass the bill, blessing an action that had proved unstoppable.

When Trump first seriously started his climb in politics back in 2015, it seemed as if his populism and nationalism were merely vehicles for his brand. A formidable bloc of Americans seemed bewitched by the messaging that the elites were pulling a fast one. Those voters explained away his pressure campaign against Ukraine to find dirt on a political rival; dismissed his role in the violence that consumed the U.S.

Capitol on Jan. 6, 2021, as overblown; and eventually rationalized that returning Trump to power would allow him to finish what he had started in his first term. Grace was limitless—until it was not.

To be fair, Trump's story on Epstein repeatedly shifted. First no real link existed between the two New York playboys. Then came the argument that Trump didn't know anything but still found reason to kick Epstein out of his Palm Beach, Fla., club. Then tales about fights over poached staffers and pilfered properties. The details grew more specific, Trump dis-

avowing a lewd drawing and a birthday wish that "may every day be another wonderful secret." Then came the Democrats' emails. And then the Republican ones.

By the end, Republicans were exhausted. Over the summer, House Speaker Mike Johnson sent his chamber home rather than allow a vote to come to the floor on releasing the Epstein files. During the six-week shutdown, he refused to swear in a duly elected House member because she would be the trigger that would force the House to take up the Epstein bill.

Even for some MAGA diehards, this posture became too hard. Some rebel GOP lawmakers like Massie saw real value in knowing what the government had. Others let it be known they did not appreciate being lied to. And yet others were willing to lose Trump if it meant justice.

In that moment, the President looked not only out of step with his base, but also at a loss for how to shape it. Trump may have finally succeeded in forming a movement that can outlast him. He is all the weaker for it. —With reporting by BRIAN BENNETT

**'My quest to
force a vote ...
is not about
incriminating
the President.'**

—REPRESENTATIVE
THOMAS MASSIE,
REPUBLICAN OF KENTUCKY



Fighting for the planet

A staff member from COP30, the U.N. climate-change conference, holds back an Indigenous protester on Nov. 11—one of thousands of climate activists who gathered outside the international summit in Belém, Brazil, that ended Nov. 21. Demonstrators called for participating countries to take greater steps to combat climate change and protect the earth.

THE BULLETIN

U.S. strikes on boats prompt rethink on sharing intel

THE U.S.'S RELATIONS WITH SOME OF its allies have come under strain amid the Trump Administration's military campaign targeting boats in the Caribbean, with some countries suspending or curtailing the way they share intelligence with Washington. The development comes as President Donald Trump's actions in the region have drawn criticism from U.N. human-rights chief Volker Türk and even some in his own party, like Indiana Senator Todd Young.

"NEW WAR" Since September, at least 80 people have been killed in over 20 missile strikes on vessels in the Caribbean authorized by the Administration. Trump has argued the military action is necessary to curb the flow of

narcotics into the U.S., but the government has not released any evidence indicating that the targeted ships were smuggling drugs. Trump has said that some of the vessels were manned by members of the Venezuelan cartel Tren de Aragua, which he claims is controlled by Venezuela's President Nicolás Maduro. (U.S. intelligence analysts reportedly disagreed with this assessment in February.) Maduro has accused the U.S. of "fabricating a new war" by expanding its naval presence in the Caribbean Sea.

HALTED COMMUNICATIONS On Nov. 11, Colombia's President Gustavo Petro directed all public security forces to "suspend the sending of communications and other dealings

with U.S. security agencies."

He added, "Such a measure will be maintained as long as the missile attack on boats in the Caribbean persists."

HESITANCE Colombia is not alone. The U.K. reportedly suspended sharing some intelligence with the Pentagon because of concern over the boat strikes, according to CNN. A U.K. government spokesperson said the U.S. is "our closest ally," but declined to comment on intelligence matters. And Dutch intelligence officials told *de Volkskrant* newspaper in October that they were restricting sharing information with U.S. counterparts over concerns on the "politicization of intelligence." —CALLUM SUTHERLAND

GOOD QUESTION

What would 50-year mortgages mean for buyers?

BY CHANTELE LEE

THE TRUMP ADMINISTRATION HAS BEGUN PROMOTING the idea of 50-year mortgages as a way to make homes more affordable for buyers—a plan that has drawn criticism even from some of the President’s allies, and that experts warn could come with potentially major drawbacks.

President Trump floated the idea of introducing 50-year mortgages in a Truth Social post on Nov. 8. Soon after, Federal Housing Finance Agency director Bill Pulte wrote in a post on X: “Thanks to President Trump, we are indeed working on The 50 year Mortgage—a complete game changer.”

The longer-term mortgage would mark a significant extension on the most common type of home loan in the U.S., a 30-year fixed mortgage, which borrowers repay over three decades.

Several right-wing commentators and lawmakers were quick to voice opposition to the idea, which Representative Marjorie Taylor Greene said in a post on X would “ultimately reward the banks, mortgage lenders, and home builders while people pay far more in interest over time and die before they ever pay off their home.”

The Trump Administration’s proposal also generated criticism from housing experts, who say that the benefits to homebuyers would be minimal.

THE OBVIOUS REASON to talk about a 50-year mortgage is that the monthly payments would be lower than those for a 30-year mortgage, according to Alex Schwartz, professor of urban policy at the New School, who walked TIME through the pros and cons. Imagine, for instance, that a person is purchasing a \$500,000 home with a 30-year mortgage. The current average interest rate for a 30-year fixed mortgage is about 6.22%, according to Freddie Mac. That means if the homebuyer made a down payment of 20%, their monthly payment of the loan’s principal and interest combined would be \$2,455, according to Fannie Mae’s mortgage calculator. But if the buyer took out a 50-year mortgage, again with a down payment of 20%, then their monthly payment of principal and interest—assuming that the interest rate is the same—would be \$2,171, according to Fannie Mae. That’s a little under \$300 less than the monthly payment for a 30-year mortgage.

“It’s a reduction, but it’s not dramatic,” Schwartz says of the difference between monthly payments.

He also notes that in practice, the interest rate for a

50-year mortgage likely wouldn’t be the same as that for a 30-year mortgage, which could reduce the potential savings. A higher interest rate is just one of a few possible drawbacks to a 50-year mortgage, he says. Another is that buyers would be in debt for longer.

“If you were 30 years old and bought a home with a 30-year mortgage, it would be owned free and clear at age 60, so you’d only have to pay property taxes and maintenance on the home, no longer having to pay a mortgage during your older years or retirement,” Schwartz says. “If you were now paying a loan for a

50-year mortgage, and you’re 30, the mortgage wouldn’t end until you’re 80, and so you would have a period of time, most likely during retirement, where you have to pay the debt-service costs on top of the property taxes and maintenance.”

The other issue, Schwartz says, is that homeowners wouldn’t build equity as quickly with a 50-year mortgage as they would

with a 30-year mortgage. For the first several years of a mortgage, a homeowner is primarily paying interest; it takes several years before they actually start reducing their debt. Buyers with 50-year mortgages would be paying down their debt much more slowly compared with those with 30-year mortgages.

And if housing prices go down during that time, people with 50-year mortgages may be more likely to be left in negative equity, meaning they would owe more than their homes are worth.

“There are major trade-offs here,” Schwartz says.

Amid all the criticisms, the President has defended the idea. All a 50-year mortgage would mean “is you pay less per month” and “over a longer period of time,” Trump told Fox News in an interview that aired on Nov. 10. That “might help,” he said, “a little bit.” □



‘There are major trade-offs here.’

—ALEX SCHWARTZ,
PROFESSOR OF
URBAN POLICY AT
THE NEW SCHOOL

LEFT: JOE RAEDLE—GETTY IMAGES; RIGHT: PENNY MARU MILLER—UGC/UNIVERSAL IMAGES GROUP/GETTY IMAGES; WATSON ANDREAS FEININGER—THE LIFE PICTURE COLLECTION/SHUTTERSTOCK; HASINA PERARON BOONAKAT—SOPA IMAGE/REUTERS

ENDED

The longest **government shutdown** in U.S. history on Nov. 12, after President Donald Trump signed legislation that was passed by both the Senate and the House to fund most agencies through January.

RETURNED

The body of **Meny Godard**, one of the four remaining hostages abducted during the Oct. 7, 2023, attack that sparked the conflict in Gaza, the Israeli government said on Nov. 13.

RECORDED

About 300,000 confirmed and suspected cases of **cholera** so far this year in Africa, health officials said on Nov. 13. Officials said the continent is facing its worst outbreak in decades.

APPROVED

The Trump Administration's **peace plan for Gaza**, by the U.N. Security Council, on Nov. 17.

DECLINED

A request to revisit the U.S. Supreme Court's 2015 ruling that legalized **same-sex marriage**, by the court on Nov. 10.

MINTED

The last **American penny**, on Nov. 12, in Philadelphia. The Treasury Department said in May it would wind down production of the penny because of the high cost.

**DIED**

James Watson

Co-discoverer of the structure of DNA

IF IT'S TRUE, AS FORMER SECRETARY OF DEFENSE DONALD Rumsfeld once said, that a country goes to war with the army it has, not the army it wishes it had, so too is it true that a culture gets the heroes it gets. So you can't have Charles Lindbergh without the Nazi sympathies. You can't have Thomas Jefferson without the enslaving. And you can't have Nobel laureate James Watson, who died on Nov. 6, at age 97, without his history of toxic remarks.

Watson's Nobel, which he won in 1962 and shared with Francis Crick and Maurice Wilkins, recognized their discovery of the double-helix structure of DNA. They were celebrated at the time—but as the decades wore on, Watson's star dimmed.

There was his 2007 remark that he was “inherently gloomy” about the future of Africa, because of baseless beliefs about intelligence. There was his comment that “some antisemitism is justified.” There was his eugenic statement in 2003, that “if you are really stupid, I would call that a disease. So I'd like to get rid of that.”

Watson nonetheless did great things, though his and Crick's and Wilkins' achievement would be shadowed in another way too. They got a leg up in their work in 1953 when they were shown a raw X-ray crystallography image of DNA made in the lab of Rosalind Franklin, a gifted chemist. The picture did not seal the deal on the structure of DNA, but it did send them down the research road that would reveal the double helix. Franklin, however, was overlooked by history—partly because she died in 1958 and Nobels are not awarded posthumously.

Crick and Wilkins died in 2004, leaving Watson the sole representative of their legacy. Over the years he made more disturbing comments—on race and IQ, on women's place in science. In life, he passed up the chance to retract them. He no longer has that option. It is a fraught legacy—but it's the one he chose. —JEFFREY KLUGER

SENTENCED

Sheikh Hasina

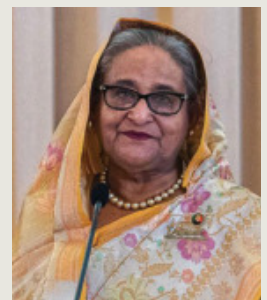
To death

Last year's deadly crackdown on a student uprising in Bangladesh led to the ouster of then Prime Minister Sheikh Hasina after 15 years in power. Now, it may also lead to her execution: on Nov. 17, the former leader was sentenced in absentia to death, for crimes against humanity. The U.N. estimated that up to 1,400 people were killed in the violent clashes.

“We lost control of the situation,” Hasina said in a statement following the sentencing by a special tribunal, according to the AP, “but to characterize what happened as a premeditated assault on citizens is simply to misread the facts.”

She is currently in exile in India, as is her former Home Minister Asaduzzaman Khan, who was also sentenced to death. Bangladesh, which is governed by an interim body led by Nobel Peace Prize laureate Muhammad Yunus, has sought to extradite both to face trial.

—Callum Sutherland



THE HERITAGE AND ARTISTRY OF THE MACALLAN

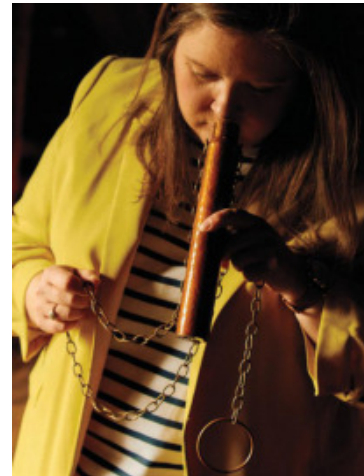
In the rolling hills of Speyside, Scotland, The Macallan Distillery stands as both a landmark and a living craft. To the outside world, The Macallan may be defined by its rich flavor and iconic profile. But to the people who make it, whisky is only the final element in a much larger story – one that begins in the forests of Europe and the US, and the bodegas of Jerez de la Frontera, Spain, where oak and sherry lay the foundations of character, long before spirit touches oak.

This is the essence of The Macallan philosophy – a commitment not just to sourcing ingredients responsibly, but to preserving the relationships, skills, and traditions that have shaped their whisky for centuries.

SPANISH HERITAGE IN EVERY CASK

Scotch whisky may be rooted in Scotland, but some of its deepest flavors come from Spain. The Macallan's defining richness is credited to its sherry seasoned oak casks, crafted and filled exclusively in Andalucía. Spanish sherry is not a finishing touch; it is the foundation.

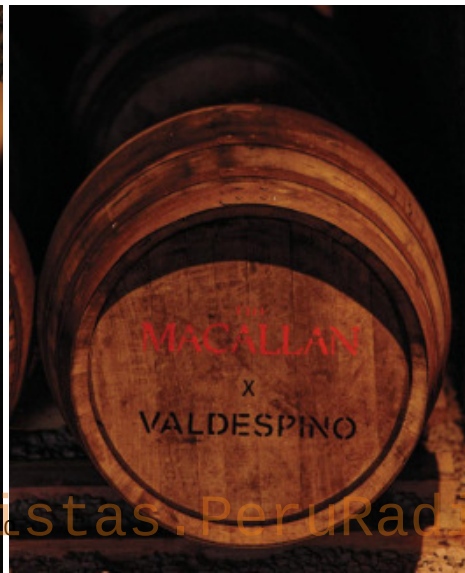
Diane Stuart, Whisky Maker at The Macallan, recalls her first visit to Jerez de la Frontera: "I sampled a Pedro Ximénez sherry straight from the cask. It was like liquid raisins with a hint of orange. In that



moment, I understood how much artistry and patience goes into sherry wine, and how that translates directly into our whisky."

Sherry casks arrived in Scotland as transport vessels centuries ago, but The Macallan was among the first distillers to understand their potential. Jane Graham, Managing Director of Cask Operations, explains: "Sherry was hugely popular in the UK in the 18th and 19th centuries, and the empty wine casks ended up in Scotland. Someone at The Macallan had the foresight to mature whisky entirely inside those casks. That decision defined who we are."

However, in 1935, regulations changed, requiring that sherry be bottled only in Spain. This meant the natural flow of casks into Scotland slowed significantly. Rather than walk away from tradition, The Macallan went directly to the source. They began commissioning casks in Spain, developing relationships with family cooperages (barrel artisans), sawmills, and sherry producers. Over time, those relationships became core partnerships – and in recent years, direct investments that helped preserve these businesses for the long term.





ADVERTISEMENT

of knowledge, craft, and human attention at every stage. There are no short cuts, no rushing. Whisky is always in the process of becoming."

INNOVATION IN SERVICE OF HERITAGE

While tradition is sacred at The Macallan, innovation is quietly at work behind the scenes – not to replace craftsmanship, but to deepen understanding.

"To us, innovation is about strengthening human expertise," Graham explains. "Because we're involved in every stage – from oak sourcing to distillation – we can study how different oaks behave, how sherry interacts with oak, and how climate affects seasoning. It gives us freedom, but within an established discipline of our craft."

One such example is The Macallan's investment in Grupo Estévez, owners of Macharnudo Alto, one of the most prestigious vineyards in Jerez and the historic Valdespino brand of sherry and aperitifs. This allows full traceability of the sherry wine used to season The Macallan's casks. The single malt Scotch whisky brand also works with the University of Cadiz in the south of Spain to better understand the science of the seasoning process, and how wine, oak and whisky interact. "We want character. The goal is for every expression to be unmistakably The Macallan, and consistent from bottle to bottle of a given product. But, every expression tells a unique story of its own, and that is something we celebrate."

"These aren't just suppliers," Graham says. "They are families with generations of expertise. Investing in them wasn't about corporate control. It was about ensuring those skills and that heritage continued to grow and evolve, alongside us."

PRESERVING CRAFT, NOT JUST PRODUCT

The Macallan's decision to invest in the process from oak to distillery was not just strategic, it was cultural. This vertical integration enables consistency, but more importantly, protects human artistry.

"Up to 80% of a whisky's flavor comes from the cask," says Stuart. "Drying the oak, shaping the staves, seasoning with sherry – each step is done with skill and care. No two casks are ever exactly alike. That's where the magic lies."

Oak is air-dried for years before it even becomes a cask; From tree to distillery can take five years alone. Sherry seasons the oak for around two years before casks are emptied and shipped to Scotland. Only then does the spirit begin its slow transformation inside that cask.

"It's a dialogue with nature," Stuart says. "We work with materials that have their own character. You can't rush it. You can only guide it."

PEOPLE AT THE HEART OF EVERY CASK

Behind the whisky are roughly 600 people across Scotland and Spain – foresters, coopers, sherry-makers, farmers, distillers, and whisky masters – whose work is largely unseen, but essential.

Back in the warehouses of Speyside, Scotland, Stuart and the team nose and sample whisky as it matures. "Even when we follow the same method, each cask develops differently. Our job isn't to force them to be the same, it's to listen and understand each, and bring them into balance."

In Jerez, Graham watches coopers shape and fire casks, each hoop hammered into place by hand. "It's physical, exacting work. The rhythm, the heat, the instinct – it's like watching living history."

For Alex Robertson, Head of Education at The Macallan, sharing this human story is part of the craft itself. "Our role is to help people understand that this is a living art form. It's the culmination



A LIVING LEGACY

The Macallan's story is not about nostalgia. It is about stewardship – of oak, casks, and relationships – and of knowledge passed down elegantly from one generation to the next.

Stuart reflects on tasting whisky she helped shape. "You hold a glass and realize how many hands, how many years went into it. You're just one link in a chain. And that's very humbling."

Graham sees the same from her base in Spain. "Knowing these generational family businesses and their culture continue to thrive through our partnership is an honor for us."

From Andalucía to Speyside, The Macallan is defined by trust, patience, and the belief that while technology can refine a process, only people can give it soul.



Yale University has educated the third most U.S. leaders of any college on the list

Where top U.S. leaders earn their stripes

BY CHARLOTTE HU

AS THE INDUSTRIES AND COMPANIES driving the American economy change, new generations of leaders are rotated in to take the helm. To understand the formative experiences and paths of American leaders, TIME and Statista analyzed the résumés of a diverse group of 4,800 of the most influential figures shaping U.S. society today—from policymakers and corporate executives to leading scientists, educators, and cultural innovators. The dataset is updated yearly to include younger leaders in emerging fields. The result is 125 universities and 175 companies that made the most frequent CV appearances.

Many leaders still start their journeys at the elite schools that stay at the top of this list year after year, reflecting the enduring influence of certain established universities in shaping future leaders. Harvard, Stanford, and MIT continue to rank in the top five, and their alumni continue to head the new wave of top companies in the U.S., like Amazon, Nvidia, and AMD. Even as higher education

faces criticism and political pressure, it's hard to deny that getting into an elite school can often set students up for future success and create socioeconomic mobility, not only through education offerings, but also through setting up shortcuts to leadership-incubation firms after graduation.

"We are attracting leaders. When you have this ability to convene so many amazing people and industries here in New York, we give them a kind of a superhighway to leadership," says MJ Knoll-Finn, senior vice president for Enrollment Management and Student Success at NYU (No. 8). These leaders aren't just replacing old heads at legacy companies, but forging paths in uncharted territories. Notable leaders from NYU include Alondra Nelson, who led generative-AI policy at the White House and oversaw the release of the Blueprint for an AI Bill of Rights

under the Biden Administration. Some have used their adaptable technical expertise to ride the wave of innovation, like Eric Schmidt, a graduate of UC Berkeley (No. 7) who was formerly Google's CEO and now is a prominent voice influencing AI policy in Washington and the development of AI startups.

But several new colleges were added to the list this year, mainly HBCUs, liberal-arts colleges, and state universities, reflecting the increasingly diverse background of younger leaders. Morehouse College (No. 111), an HBCU that first appeared on the list last year, boasts alumni like Senator Raphael Warnock, who not only was the first college graduate in his family but also became the first Black Senator in the state of Georgia in 2021.

While people can lead without going to college or by going to school online, Michael Gumm, director of admissions and recruitment at Morehouse, sees college education as an extra tool to leverage campus activities or established alumni networks in prominent places that can serve as career stepping

stones. "Using those networks, which is the biggest aspect to me in today's times ... and the ability to build those connections, it has to start somewhere," Gumm says.

After college, leaders often use those connections to join long-established career pipelines at major consultancies like McKinsey, Deloitte, PwC, EY, and

KPMG. Large, active alumni networks associated with these firms give new recruits a leg up on nurturing relationships with future clients and employers, putting them on a fast track to future leadership. However, *Fortune* reports that as AI disrupts consultancy as a field,

'The individuals who will thrive will be those who invest in relationships.'

—BOB STERNFELS,
MCKINSEY

IBM has also steadily held its top-10 position even as other traditional CEO factories like GE have fallen off. GE was ranked on the 2024 list, but has been undergoing a dismantling that formally separated it into three companies: GE Healthcare, GE Aerospace, and GE Vernova. Only GE Healthcare was ranked on this year's list at No. 64, a steep drop from its 2024 position. In its place, younger companies like Alphabet (parent of Google and YouTube) have slowly crept up as more company alums mature into leadership roles, allowing it to climb from No. 26 in 2024 to No. 13 last year, and No. 9 this year. For example, the CEO of AI powerhouse Anthropic, Dario Amodei, was previously a Google Brain researcher.

See the full lists at time.com/future-leaders

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HEALTH

The food pyramid may be back on the menu

BY CHAD DE GUZMAN

EARLY PUBLIC NUTRITION ADVICE CAME AS A WARNING. Wilbur O. Atwater, a chemist and renowned nutritionist, wrote in an 1902 edition of the U.S. Department of Agriculture's (USDA) digest, Farmers' Bulletin, that "Unless care is exercised in selecting food, a diet may result which is one-sided or badly balanced—that is, one in which either protein or fuel ingredients (carbohydrate and fat) are provided in excess ... The evils of overeating may not be felt at once, but sooner or later they are sure to appear."

Over the years, U.S. authorities have made recommendations on what Americans should eat—often with the help of visual aids. Now, Robert F. Kennedy Jr., President Donald Trump's Health and Human Services (HHS) Secretary, may bring back a relic from the past to promote the latest advice.

Bloomberg reported that the Trump Administration is considering reinstating the food pyramid when HHS and the USDA jointly update the U.S. Dietary Guidelines in December.

An HHS spokesperson said in November that Kennedy "is committed to new dietary recommendations that are rooted in rigorous science" and that "the 2025–2030 Dietary Guidelines for Americans will be a big part of the Trump Administration's commitment to Make America Healthy Again." A USDA spokesperson said the updated guidelines "will address the chronic disease epidemic plaguing our nation, by prioritizing whole, healthy, and nutritious foods."

THE STORY of American dietary diagrams dates back to 1943, when the USDA issued dietary advice in the form of the "Basic Seven," which dedicated three categories to fruits and vegetables, and one slot each to milk and milk products; meat, poultry, fish, and eggs; bread, flour, and cereals; and butter or fortified margarine. Notably, it didn't recommend a portion size for each food group. In 1956, the Basic Seven was simplified to the Basic Four, organized into new groups: milk, meat, vegetable-fruit, and bread-cereal, with rough daily serving suggestions for each group.

In 1980, the USDA and HHS released the seven-point Dietary Guidelines for Americans, as the overconsumption of sugar, saturated and other fats, cholesterol, and sodium steadily gained recognition as risk factors for developing chronic diseases. To illustrate what a healthier diet would look like at the time, the USDA, in cooperation with the American National Red Cross, presented consumers with "The Food Wheel: A Pattern for Daily Food Choices" in 1984.

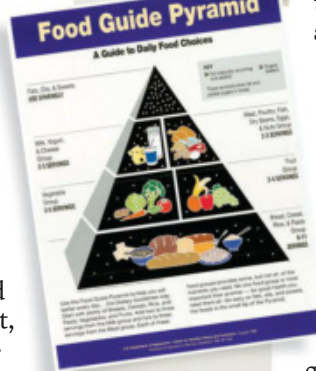
In 1992, the food guide was released in a pyramid format. The width of each pyramid level roughly indicated the proportion of food servings: at its base were bread, rice, cereal, and grains, which should have the largest servings; and at its apex were fats and sweets, to be consumed sparingly.

But even the pyramid drew flak for being broad and vague. To address those concerns, a new version was released in 2005, called MyPyramid. It was outfitted with stairs, meant to remind Americans of the need for exercise, and its food divisions were flipped to the side, in bands of varying colors to represent different food groups: orange for grains, green for vegetables, red for fruits, yellow for oils, blue for milk, and purple for beans and meats.

In 2011, however, the U.S. abandoned the food pyramid in favor of what it called MyPlate, which indicated an average diet should be half fruits and vegetables, and roughly a quarter each for grains and protein. A smaller plate to the side was for dairy.

Kennedy has advocated against ultraprocessed foods, blaming them for causing chronic diseases and obesity. Many nutritionists agree, but he has also shared food misinformation—like claims about seed oils' toxicity—and experts are watching warily. Kennedy has also indicated that the full guidelines his agency issues will be just a few pages long. Kevin Klatt, a research scientist in the department of nutritional sciences and toxicology at the University of California, Berkeley, says that reflects a "misunderstanding of the role of the Dietary Guidelines," which are intended as a policy document, not a guide for the public.

As for the visual aid, sources told Bloomberg that it is expected to focus on protein and whole foods. The exact details on what it will look like are reportedly still being triangulated. □



The 1943 Basic Seven, a 1966 USDA daily food guide, and a food pyramid printed in 1996



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5 migraine symptoms that aren't headaches

BY ANGELA HAUPT

NEARLY 40 MILLION people in the U.S. suffer from migraines, making the painful disorder one of the most common that neurologists treat. It's also among the most confusing. Because of the many ways it can show up, it can take more than a decade to receive an accurate diagnosis.

"The general concept about migraine in the common population is that it's a headache syndrome," says Dr. Hamid S. Hamdi, a neurologist who leads the Headache Clinic at UTHealth Houston Neurosciences in Sugar Land, Texas. And certainly, many migraine sufferers—though not all—experience a throbbing headache. Beyond that, however, "people don't know about all the other symptoms that migraine can cause, so they're very surprised in the beginning," he says. "Even as neurologists, we don't always [attribute those symptoms] to migraine until we've ruled out things like a stroke."

We asked Hamdi and other neurologists which nonheadache migraine symptoms they see most often.

1. Food cravings

A couple of days before developing a headache, people typically enter the prodrome (early) phase of a migraine. Surprisingly, many report food cravings—especially for salty foods, sweets, and chocolate. The way that scientists think about this kind of craving has evolved. While some once believed that foods like chocolate caused migraines, research suggests that's not the case, and there's no reason for people to avoid them. "Generally, it was believed that chocolate could trigger migraine," Hamdi says. "But what we believe now is that it's not chocolate that triggered it—it's that people were having a craving for chocolate as a prodrome of migraine."



2. Vision changes



About 20% of people with migraines experience a visual aura, or temporary changes in vision. These can show up as shimmering spots, zigzag lines, blind spots, tunnel vision, or even temporary blindness. Visual aura is likely caused by a wave of electrical and chemical activity that spreads across the brain. "People have described it all different ways," says Dr. Thomas Bravo, a neurologist and director of the Headache Center at Loma Linda University

Health in California. "It can be disturbing to a patient if it's the first time," but once they know it's linked to their migraine and will pass within an hour, it's not quite so scary.

3. Sensory sensitivity

Migraines are often accompanied by increased sensitivity to light, sound, and smells. The scents you're exposed to every day may strike you as much stronger and more putrid than usual, for example, and "can be anywhere from unpleasant to actually painful, depending on the person," Bravo says. You also might find that you can't stand even the gentlest touch. Some people experience tactile allodynia, which happens when the central nervous system becomes extra sensitive to things that touch your skin.



4. Motor changes

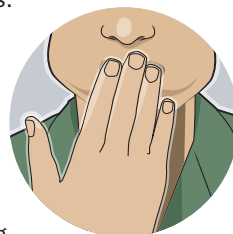


Hemiplegic migraines—which are rare but serious—are associated with motor changes, like one-sided body weakness or paralysis. This type of migraine has a strong genetic component and is often passed down from a parent. "Basically, your face, arm, and leg get weak during the migraine attack, and then it goes away afterward," says Dr. Brian Gerhardstein, a neurologist and director of headache medicine at JFK Neuroscience Institute in New Jersey. "It can

look exactly like a stroke, so a lot of these patients end up in the emergency room." Seeking urgent care is a good idea, Gerhardstein adds, since it's important to rule out potentially life-threatening conditions.

5. Abdominal pain

An "abdominal migraine" can cause a terrible stomachache, nausea, vomiting, and a lack of appetite. "People vomit over and over and over," Gerhardstein says. While there are different theories for why this happens, research suggests it's likely related to changes in the gut-brain axis. These gastrointestinal symptoms are common among kids and can be hard to diagnose, especially if young patients don't have a headache or are unable to articulate that they do. "I see pediatric doctors scratching their heads trying to figure out what exactly is going on," Gerhardstein says. "When they've ruled out all the more organic causes, they come to migraine as the final diagnosis."



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The View

SOCIETY

LIVING IN PUBLIC

BY TAYLOR CRUMPTON

“The camera eats first.” A decade ago, that phrase was a joke about influencers and their avocado toast. Now it’s shorthand for how every corner of life—dinners, cleaning, milestones, even grief—can be packaged for public consumption. We live in a world where intimacy has become inventory, where the difference between living and posting is often just a matter of lighting. ▶

INSIDE

TRUMP CAN MAKE RUSSIA PAY FOR ITS
WAR ON UKRAINE, BUT NOT END IT

NO, ARTIFICIAL INTELLIGENCE DID NOT
WRITE THAT TOP COUNTRY SONG

WHY HUMANITARIAN EFFORTS TO FEED
THE WORLD KEEP FAILING

The rise of the creator economy has blurred the line between the personal and the performative. What was once private—a positive pregnancy test, a baby shower, a child’s first day of school—has become brand content. For many creators, the more intimate the moment, the more lucrative the post. The financial incentive to share has turned the private self into an asset class.

The blueprint was laid years ago by mommy bloggers, whose lives became a business model. Now, their children, who grew up online, are speaking out, questioning why their childhood memories became monetized content. Their discomfort is a warning: we have turned our most personal experiences into public labor.

Social media platforms reward visibility. Algorithms don’t distinguish between authenticity and performance—they simply amplify what’s most clickable. As journalist Chanté Joseph wrote in British *Vogue*, women once gained status online by showing off a relationship; now, they hide their partners to preserve engagement rates. In a digital ecosystem where follower counts can dictate income, posting your boyfriend is a business risk.

That’s because attention equals opportunity. The influencer industry is projected to be worth \$480 billion by 2027. More than 200 million people around the world now call themselves creators, with about 27 million in the U.S. alone. Syracuse University recently launched a Center for the Creator Economy. “Academia is going to start teaching content-creation skills that you can learn inside your university classes,” social strategist Jayde Powell told me.

The most successful creators, or “creatorpreneurs,” aren’t just posting videos; they’re building empires. Michelle Phan, who started out making YouTube makeup tutorials, co-founded the beauty subscription service IPSY and her own cosmetics line. Jackie Aina used her online following to launch FORVR MOOD, a luxury fragrance brand sold at Sephora. Their success stories are now case studies for an economy built on visibility.

Aneesh Lal, founder of the creator



agency the Wishly Group, says LinkedIn influencers appeal to brands precisely because they feel “safe”—a way to reach affluent audiences without the trolling that plagues other platforms. The dynamic encourages even corporate executives to blur boundaries between leadership and self-promotion. But visibility is fickle. Lal says his clients typically make \$20,000 to \$25,000 in their first six months—a respectable sum, but hardly reflective of the labor involved in building a personal brand. According to Goldman Sachs, only about 4% of creators earn over \$100,000 a year.

BUT BENEATH THE GLAMOUR lies a system with few guardrails. There’s no standard pay rate, no guaranteed protections for minors, and almost no labor regulation. Only a handful of states—California and Illinois among them—require that child influencers receive a portion of their earnings. And racial inequities persist. Creators of color consistently earn less than their white peers, even when their work drives cultural trends.

Cracks are showing. This is the internet, so controversies are rife, and can trip up brands—like Huda Beauty, which cut ties with influencer Huda

Mustafa over her response to a slur directed at one of her fellow *Love Island* contestants on social media. The fallout exposes the moral instability of the entire ecosystem. As writer Victor Quennell Vaughns Jr. observed in *Ebony*, “The beauty of a brand is not in its packaging, it’s in its principles.”

Yet the creator economy’s reach only grows. Even journalists—long the chroniclers of other people’s stories—are becoming creator journalists, publishing independently through newsletters and video platforms. The logic of visibility has infiltrated every profession: if you’re not building an audience, you’re falling behind.

The problem isn’t creation itself. It’s that the platforms and policies around it reward constant exposure while offering little protection in return. Data is monetized, privacy erodes, and as the line between “sharing” and “working” disappears, we remain unpaid workers in a trillion-dollar industry that thrives on our attention. The quietest rebellion may be the simplest one. The next time the meal arrives, maybe let yourself eat first—and leave the phone face down.

Crumpton is a music, pop-culture, and politics writer from Dallas



The Risk Report By Ian Bremmer

CONTRIBUTING EDITOR

THREE YEARS AND NINE MONTHS after Russia's full-scale invasion of Ukraine, the war grinds on. There's been plenty of news and noise of late. Yet as we approach the end of 2025, there's no sign of resolution on the horizon.

In recent months, the Europeans have done much more to bolster Ukraine's defense and its economy. In fact, this has gone from a war in which the U.S. provided most of the direct support to Ukraine, to one where the Europeans are today taking the leadership mantle.

But despite skepticism on both sides of the Atlantic that Donald Trump would do much to help Ukraine, Washington too is escalating against Russia. Trump has grown tired of waiting for Vladimir Putin to offer any significant concession, and his Administration not only is continuing to share intelligence with Kyiv but is also now permitting Ukraine to use its weapons against targets deeper inside Russia. Successful strikes on energy infrastructure have reduced how much refined product Russia can get to market. Its energy exports are down nearly a quarter from the start of this year.

The Trump team has also imposed new sanctions on Russian energy giants Lukoil and Rosneft, though these will take time to have a major economic impact. It's imposing concerted pressure on India, one of Russia's major remaining energy customers, to cut back on its imports. India appears to be complying. This pressure will cost

Russia and its war machine billions, maybe tens of billions, of dollars in years to come.

A shortage of manpower means that Ukraine can't launch a sustained counteroffensive to retake lost ground. But Ukraine's access to accurate long-range missiles, and the lack of any apparent Trump Administration prohibition on using them against targets deep inside Russia, have created a major headache



Life goes on in Kyiv after a Russian missile attack on Oct. 25

for Moscow. Russia's largest warm-water ports, hundreds of miles from the war's front lines, are now within range. That matters, because these are Russia's only crude-oil export terminals that don't freeze in winter—and the ability of Russian air defenses to protect them remains unproven.

YET THERE'S NO SIGN Putin will soon waver in his determination to return Ukraine to Moscow's orbit, and Russia has proved that it's willing and able to take punches from the West. We shouldn't expect that sanctions, a Ukrainian counteroffensive, European resolve, or Trump's impatience with Putin

will force Russia to limit the intensity of its attacks in 2026. It's also clear across Ukraine that Russia will make this another cold winter—by using more drones and missiles to overwhelm Ukraine's under-replenished air defenses in order to strike its already damaged power-generation capacity. That's a blow for both the country's economy and the morale of its people. Ukrainians are already losing some of their will to fight. **In a July Gallup poll, 69% of Ukrainians said they wanted a negotiated end to the war as soon as possible against 24% who supported a fight to total victory.**

That's a near complete reversal from Gallup results from 2022 and 2023.

Unfortunately, a negotiated settlement won't happen soon. Putin continues to demand that Kyiv concede even more territory than Russia now holds—and that Ukraine effectively disarm. Both, he surely knows, are nonstarters for Volodymyr Zelensky's government. Whatever Trump does in the coming months, European leaders expect a continued fight, and it's becoming more likely that European governments will use up to €140 billion in frozen Russian assets to support Ukraine over the next two years. That's enough to keep Kyiv in the war.

The Russians will make more modest advances on the ground. Ukrainian civilians will continue to pay a heavy price. Many more Ukrainian and (especially) Russian soldiers will be killed, and Moscow will continue to provoke NATO countries with espionage, sabotage, drone incursions, cyberattacks, and whatever else it believes it can get away with without starting a wider war that the Russians can't win. □



In the Loop

By Andrew R. Chow

TECH CORRESPONDENT

In November, many headlines declared that an AI-generated song, “Walk My Walk” by Breaking Rust, had become the biggest country song in America. This is unequivocally not true. “Walk My Walk,” a laughably generic country song about independence and defiance, had only middling momentum on streaming and search before it topped *Billboard*’s Country Digital Song Sales chart. But because very few people actually buy digital songs anymore, it takes only a few thousand purchases to top that ranking.

This raises the possibility that, like the song itself, the momentum behind “Walk My Walk” might have been artificial. It would not be the first time this has happened: *Billboard*’s digital sales have been a target for manipulation for years now, forcing the company to make several interventions to protect the integrity of its charts.

So “Walk My Walk” is technically a No. 1, but not in a meaningful metric. Regardless, the headlines around its chart-topping have created a flywheel effect, generating more interest and outrage. Some people now like the song and some hate it—but people are clicking either way.

Still, **the “Walk My Walk” discourse shows how AI continues to permeate the music industry in increasing ways.** Multiple AI artists have charted on *Billboard* this fall. And studios like Universal Music Group have been striking deals with AI companies. “The whole industry needs to stand up and say, ‘How are we going to deal with these AI tracks?’” says Kyle Coroneos, the founder of the website Saving Country Music.



For a twice-weekly deep dive into the AI revolution, sign up at time.com/intheloop



Health Matters

By Veronique Greenwood

STAFF WRITER, HEALTH AND SCIENCE

FLU SEASON HAS COME EARLY IN the U.K. Cases began to tick up in October, more than a month ahead of when epidemiologists expected the season to start. Driving the surge is a new variant, and while flu viruses are always evolving, this one has quickly racked up an impressive number of mutations.

The variant is known as influenza A subtype H3N2 subclade K—sometimes called “subclade K.” It has been detected in Japan as well.

In October, Canadian scientists warned that the mutations warranted close observation. On Nov. 12, consultant epidemiologist Jamie Lopez Bernal and his colleagues at the U.K. Health Security Agency (UKHSA) released preliminary results from the U.K. suggesting that so far, vaccination is still providing significant protection against hospitalization and severe illness.

However, the level of protection is closer to what they usually expect to see at the end of a flu season, when vaccine effectiveness has waned.

Does that mean the later stages of this season will be especially bad?

“Flu is notoriously unpredictable, so it’s very difficult for us to say what’s going to happen,” says Lopez Bernal. It’s possible “that we’ve got an earlier season and that it finishes

earlier, but I think the fact that we have seen earlier activity—and the fact that we have this concerning subclade—increases the chance that we’re going to see a more intensive flu season than we normally do.”

Dr. Antonia Ho, professor and consultant in infectious diseases at the University of Glasgow, adds that earlier flu seasons often mean more people get the flu. What’s more, seasons driven by H3N2 flus, like this one, tend to hit the elderly hard.

During the recent U.S. government shutdown, the flu-tracking website of the U.S. Centers for Disease Control and Prevention was not updated, displaying September’s numbers well into November. But the New York State department of health’s flu-surveillance report for the week ending Nov. 1 showed an increase in laboratory-confirmed flu cases, up 49% from the previous week.

The best protection against flu, Lopez Bernal stresses, is to get vaccinated. Even with this new variant’s mutations, the vaccine is still an important tool against the disease.

“It remains our best tool to protect each other,” adds Ho.



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WORLD

The real reason we fail to feed those in need

BY DAVID BEASLEY

FOOD IS THE DIFFERENCE BETWEEN LIFE AND DEATH. Everyone knows this. But it's also the difference between stability and instability, union and division, and peace and war. I have had a front-row seat to some of the worst recent humanitarian crises—from Yemen and Syria to Afghanistan and Gaza—and this has been true, time and time again.

I've sat face-to-face with mothers who've told me, "My son didn't want to join ISIS or al-Qaeda, but he had to feed his little girl." These are families who don't want to leave home, but will do what any mother or father would to feed their children, even if it means risking everything.

The power of food is simple to understand, yet the systems around it are anything but. When famine strikes, we rightfully react. Emergency aid is activated. Millions of dollars are deployed. But repeatedly, the cycle starts afresh. We fail because we treat famine in isolation from its interconnected crises.

We have enough funds, and enough food, to feed the world. The real reason humanitarian efforts keep failing is because decisionmakers profit from short-term solutions at the cost of addressing the root causes of inequality and food insecurity.

WHEN THE WORLD FOOD PROGRAMME (WFP) received the Nobel Peace Prize in 2020, it was honored in a year marked by severe global conflicts and crises, including the pandemic. In announcing its decision, the Nobel Committee hailed the scale of aid that had been provided the previous year, with our team having helped close to 100 million people across 88 countries. But it explicitly cited the wider impact of our approach in shifting perceptions of famine and hunger—moving from treating crises as disasters in need of immediate relief, to understanding access to food as a powerful tool in both conflict prevention and resolution.

Whether in the form of vegetables, rice, or bread, our team was providing the weapons of peace required to start reconciliation within communities that creates stability across nations. The reason food is effective at establishing peace is the same reason leaders use food as a weapon of control to weaken majorities or deplete autonomy: because food is powerful.

But food's strength comes from hunger being more powerful. Hunger drives humanity to all kinds of extremes and the worst kinds of horror.

Food shortages brought on by one war can trigger conflict on the other side of the planet. Every day we see traumatic images of people risking their lives for the chance of a better one, whether that's in Gaza, Sudan, or Yemen. Most of us cannot imagine the extremities that would drive them to do so, but the truth is they are often risking everything



Women in line for food aid at a camp for the displaced in Bentiu, South Sudan, on Nov. 6

to feed themselves and their families. These are people entering direct conflict zones for the chance of obtaining a single sack of flour.

Today, we have unprecedented amounts of global wealth and technological capability. Despite catastrophic USAID cuts, the past few years have seen organizations raise record-breaking funds to combat global hunger.

In many respects, you could say we have succeeded in our humanitarian efforts. Just 200 years ago, approximately 80% of people lived in extreme poverty. Today that number is below 10%. Last year, the WFP delivered over 16 billion rations to people suffering from starvation. We have built global systems capable of lifting billions out of hardship.

But tell that to the 10% who go to bed hungry every night—the 800 million people we continue to fail. Despite extraordinary progress, global food security is getting worse.

Enduring conflicts, coupled with unrelenting climate shocks, mean that aid organizations may never achieve their ultimate purpose of making



**If we simply
continue to
distribute
food, we
will be
doing that
for the next
thousand
years**

themselves obsolete. This is not a result of insufficient supply; we produce more food per person than at any point in human history. Our failure is man-made, created by a lack of access, understanding, and political will.

FROM MY YEARS leading the World Food Programme, I have witnessed some of the most devastating humanitarian crises of our time and seen firsthand how much more effective it is to address root causes than provide short-term relief.

Take the impact of the Russia-Ukraine conflict, which severely affected nations around the globe because of the sharp increase in the costs of food and fertilizer. Nations like Niger were particularly vulnerable. With many people living in urban areas, limited access to arable land and water becomes a major driver of food insecurity. In addition to responding to the immediate effects of famine, the WFP's work has prioritized emergency preparedness, with an emphasis on ecological restoration to help protect climate-sensitive livelihoods and support smallholder farmers.

This meant that while the shocks were certainly felt, 80% of the villages we supported through resilience programs required no aid because of war in Europe. That alone amounted to 500,000 people protected because of a strategy that treated food access as more than a symptom of conflict or environmental change.

There is no doubt that reaching those who need immediate relief is of the highest importance, but it is not a long-term solution. If we simply continue to distribute food, we will be doing that for the next thousand years. Whereas when we implement resilience programs, build water wells, and rehabilitate land, the amount of aid needed drops significantly and for the long term.

This investment in food systems, sustainable infrastructure, and agriculture is not only a moral imperative, but also an economic one. Support for displaced people at the U.S. border costs thousands of dollars per week for each child, but it takes just \$1 to \$2 a week to fund resilience programs across Latin America that enable families to grow their own food. Similarly, the costs of supporting refugees who come to Germany, which took in over 1 million people over the course of the Syrian refugee crisis, came to an estimated €30 billion in 2023. From my work with the WFP, I learned that support for a Syrian in Syria costs just 50¢ a day. In short, when people don't have food, they move to find it. And when people move, the cost is a thousand times more.

IN ORDER TO ACHIEVE the political willpower necessary to stop this cycle, we must lay out the consequences of not funding strategic international aid. Food insecurity drives migration, fuels conflict, and erodes democracy. That's how you get through to lawmakers and taxpayers.

But too often, even our best efforts are hampered by bureaucracy. When good people are trapped in rigid systems, long-term strategies are sidelined, and technical jargon clouds both the mission and key personnel's understanding of it. This issue is exemplified at events like COP30. It's a gathering where fossil-fuel lobbyists drown out the voices of climate-vulnerable nations, where the promises made are routinely broken, and where substantive action is sacrificed for the appearance of progress.

That's why much of my work now is focused on the young people who will soon be at the wheel—young people who are distraught and disenchanted by national and international institutions that have let so many down. My message to them is to be careful and stay hopeful: Don't tear down the systems that are reaching the 90%; fix them. Integrate your modern tools and use technology, connectivity, and data to clearly evidence where proven frameworks can be made stronger.

Because hunger is not just a failure of morality, it's a failure of understanding and communication. Breaking bread is not just charity, it's strategy—and it is our pathway to peace.

Beasley is the former executive director of the U.N. World Food Programme



NATION

**WHAT THE L.A. FIRES
REVEAL ABOUT AMERICA'S
BLEAK CLIMATE FUTURE**

Distress Signal

BY JUSTIN WORLAND/ALTADENA, CALIF.

*An aerial view of
residential lots in
Altadena, Calif.,
about six months
after the Eaton Fire*

PHOTOGRAPH BY ROBYN BECK
<https://xsava.xyz/blogs/nilo>

PeruRadio.net.pe



LOOKING BACK, MY ELEMENTARY-school experience felt almost bucolic. My classmates and I ran around Saint Mark's School's 5½-acre campus carefree. With classrooms opening to the outdoors, we sat outside for lunch in the shadow of the San Gabriel Mountains and feared being sent to the administration building, a two-story house converted into offices. The smell of burning forest was a recognizable, if not frequent, occurrence. Teachers would cancel recess, lunch was moved inside from the patio—an annoyance no more ominous than a rainy day.

When I visited in February, just a month after the Eaton Fire had ripped through the town of Altadena, Calif., the campus had been transformed. For the most part, the buildings were gone. A chimney from the old house remained standing. A stairwell that once led from the ground floor of the “Art Barn” to offices upstairs had become a stairwell from nowhere to nowhere. And somehow amid the rubble sat the same blue and yellow tables where I hung out nearly three decades prior.

In September, I visited Saint Mark's again. The campus had been cleared of debris—the result of a cleanup effort that the state touts as the fastest in history—and the site now looks like a giant dirt patch, waiting for construction to begin. In the interim, the school relocated to a corner of a high school two miles southeast. It's at once a hopeful and devastating site. Modular trailers have been placed on the edge of campus. Children are playing on a hastily constructed play set. Amid the faculty walking around, I spot a few familiar faces who greet me with hugs and nostalgia. And the blue and yellow tables have been moved to a patio at the center of campus. “When we opened this facility, the kids cried; they were like, ‘Those are our tables,’” Jennifer Tolbert, the head of school, told me as we walked on the new campus.

Tolbert is resilient. She talks about how the fire has forced the school to innovate; she says it can emerge from tragedy stronger. But Tolbert, whose home also burned in the fire, acknowledges the uphill battle ahead: enrollment has declined by a third, and it will be years before a rebuild can be completed—

assuming she can raise the necessary funds. The school didn't plan for an event of this magnitude. No one did.

The Eaton Fire, much like the Palisades Fire that simultaneously ripped through another Los Angeles community 25 miles away, was at once shocking and entirely predictable. Fires are a constant threat in Southern California, and recent climatic conditions mean even steeper challenges than normal: last year the region slipped into a drought after two years of heavy rainfall. So in January, there was dead tinder ready to burn. These conditions persist today. It's exactly the sort of erratic environment that comes with a warming planet. Combine the dry vegetation with high wind speeds, typical for January, and disaster awaits. But it's precisely those factors that make the fires so shocking: a foreseeable event for any climatologist, yet apparently not for the officials charged with protecting the community. Firefighters were stretched thin, hydrants ran dry, and evacuation notices came too late.

I made my first trip to L.A. two days after the fires started, landing at LAX airport to the shriek of emergency alerts buzzing on phones across the cabin and staying at a hotel packed with a mix of first responders, evacuees, and media. Since then, I've made seven more trips to L.A. to track the recovery and spend time in Altadena, the Pacific Palisades, and the places in between where decisions are being made. It's become clear that if the initial response was botched, then the recovery has been interminably slow. As the process drags, a leadership vacuum has emerged. The state says the federal government needs to disburse funds to help cover the bills as it has in past disasters. The federal government says the state needs to take responsibility. Local government is divided

‘All these communities existed and now they're all gone.’

—STEPHEN SACHS,
AUTHOR OF *ALTAPOLICYWONK*



between centers of gravity. In this context, business and nonprofit leaders are trying to address a challenge of unprecedented scale. With no one in the driver's seat, communities—residents, local business owners, school principals, even—have been left to navigate a web of challenges.

The January fires that hit Los Angeles are, when taken together, among the costliest disasters in U.S. history, with some estimates of the economic toll topping \$250 billion. Some 16,000 structures were destroyed and, at peak, 200,000 people were hit with evacuation orders and warnings. More than 30 people died. Yet the fires have become a distant memory on the national agenda, just as happened with recent events stretching from North Carolina to Texas.

As climate-related disasters accelerate and compound across the country, communities of all political stripes, socioeconomic compositions, and racial backgrounds face new risks. The best way to protect against this is to take action beforehand—investing in programs



A patio at Saint Mark's School in Altadena, Calif., shortly after the Eaton Fire hit

that help cities prevent and prepare, an approach known in climate circles as adaptation. When disaster does strike, the government needs to embrace a new framework for recovery that moves swiftly without leading to rebuilding the exact same way. The recovery in Los Angeles is an opportunity to create a new model for a climate-resilient future. The jury is still out on whether this is possible, and the evidence isn't looking good. The L.A. fires and their aftermath should serve as a warning sign for us all.

IN AN AGE of instant communication, my first whiff of the Eaton Fire came through an old-fashioned phone tree: a call from my brother in New York to say that a fire had been spotted in the foothills a few miles from our childhood home and our parents were preparing to evacuate. For months following, my mother kept recounting the details of that night: the initial disbelief, the difficulty navigating an evacuation amid a blackout, and the regret for the lifetime of family memorabilia she couldn't save.

While their house, my childhood home, burned to the ground, my parents were among the lucky ones. Our home was located east of Lake Avenue, the thoroughfare that divides East and West Altadena, in an area where notifications came early in the evening: a notice to prepare to evacuate, followed by an evacuation order. On the other side, where many Black and Latino families had bought homes when redlining kept them out of other neighborhoods, residents went to bed with no indication of the approaching danger. Evacuation orders began at 3:25 a.m., at which point many homes had already caught fire. Residents banged on their neighbors' doors. Nineteen people died in the Eaton Fire, all but one of whom lived west of Lake.

"We never got any calls from the sheriff; we never saw a fireman," says

Lynnanne Hanson Miller, an artist whose home is one of the few still standing on her block. "It was really the encouragement of our neighbors that got us to evacuate."

With no one enforcing any restrictions on movement, many residents returned in the morning to see for themselves—sending videos and photos to friends and neighbors. Firefighters stood by perplexed as homes burned because fire hydrants had no water, the result of low water pressure caused by stress on the system. Emergency vehicles zoomed with sirens blasting. The scene was framed by a fog of thick, toxic smoke.

How the fire was managed may be considered an original sin that sowed distrust and made the recovery much harder. Lawsuits related to that night abound. And some residents have gone as far as harassing firefighters, the typical heroes of any emergency, on the street. Ahead of Halloween, a diorama on an Altadena property displayed a series of skeletons holding signs like **FIRE DEPARTMENT FAILED ALTADENA**. Over and over, victims I spoke with kept coming back to the horror of that night—and the government failure—even when our conversation had moved on. Neither the Palisades nor Altadena was a rogue frontier settlement. How could they be left to burn?

The frustration isn't just anecdotal. An independent report about both fires, commissioned by Los Angeles County, offered damning conclusion after damning conclusion. The office of emergency management was underresourced. The county's policy on evacuation warnings was unclear. And first responders relied on old tech that left them with outdated information and unable to communicate with each other reliably.

Local officials speak of the unique challenges of that night—the high wind, multiple fires that stretched resources thin, and so on. But no one offers a full-throated defense of the initial response. "We didn't have the technology or the staffing to meet the needs of how catastrophic this fire was," Kathryn Barger, the county supervisor who represents Altadena, put it to me bluntly. "The notifications were a failure."

At a national or even global level, a rich body of literature shows that a

relatively small investment to adapt to the effects of climate change pays enormous dividends. Exact numbers vary, but some estimates suggest that a dollar invested in resilience can result in up to \$10 in avoided costs and economic benefits. But even in high-risk places, these investments tend to be placed on the back burner. It's hard to cut a ribbon on training for fighting wildfires. And, when all is going well, the public isn't demanding it. In L.A., the cost of additional firefighter training, early-warning systems, and improved water infrastructure would have saved billions—not to mention lives, disruption, and heartache.

IN SEPTEMBER, I DROVE up Lake Avenue to meet Shawna Dawson Beer, one of the most outspoken locals spearheading recovery ideas. At first, the storefronts conveyed a staid sense of normality, not too different from what I remember growing up. But as I kept driving, the view quickly transformed into a tattered landscape of cleared lots and lingering debris. The homes on Dawson Beer's block just west of Lake were all gone, though on the corner, two women carried on a normal conversation, as if they had just bumped into each other on a neighborhood stroll. On Dawson Beer's lot, the first inklings of apple trees were sprouting up from the cleared dirt.

Dawson Beer, who runs a private Facebook group for Altadena residents that counts more than 10,000 members, has an extensive list of fixes that she thinks will help the area regain its footing—from soil testing to ensure the land isn't laced with toxic contaminants to new financing structures to help people afford to rebuild. But perhaps her most important idea is a call for Altadena to become an independent city, a tall order at any time but especially in the midst of fire recovery. To effectively build back, she says, Altadena must break free from the existing power structure. "We need to steer our own ship," she tells me.

The destruction of Altadena spawned an array of advocates and activists. Altadena was a diverse community, home to everyone from self-proclaimed starving artists to white-shoe corporate lawyers.

Many NASA scientists called the town home, thanks to the Jet Propulsion Laboratory nearby. In some areas, multiple generations occupied small single-family homes that had been in the family for decades; elsewhere, giant mansions sat within walking distance to the local country club. Unsurprisingly, views about what the recovery should look like vary widely.

At the HomeState taco shop, part of a commercial strip a few blocks away from any visible fire damage, I met Ali Rachel Pearl, an assistant professor who is leading a nonprofit community land trust that works with another nonprofit to turn properties into new housing, green space, or commercial spaces that meet local needs. And for owners who feel forced to sell, the organization helps keep land locally owned. So far, however, two-thirds of properties sold have been bought by investors, according to research from UCLA. "To me, the North Star is antidisplacement," she says.

After attending a fire-recovery meeting, I chatted with Joy Chen about the Eaton Fire Survivors Network. Chen, an Altadena resident who formerly worked as a deputy mayor in the City of Los Angeles, founded the group to advocate for fire victims and quickly focused on insurance issues. Few policies covered the full cost of rebuilding, the consequence of rising construction costs and policies that didn't adjust. Many victims say insurance companies are taking too long to pay out; others say insurers are short-changing them. "To me, a healthy insurance market requires that companies honor their contracts," says Chen.

Other activists are targeting issues with soil remediation. Officials say they completed the cleanup in record time; locals complain that the government was less comprehensive in its efforts to test the soil for toxic materials than it has been in past disasters. A different group focuses on resources for renters, who have slipped through the cracks of many recovery programs. Another helps equip small businesses with the means to reopen.

Even for someone intimately familiar with the texture of the community, it can be hard to keep track of the proliferation of ideas, organizations, and approaches in the wake of the fires. This dynamic



is a reflection of both the community's diversity and a widely shared commitment to a locally led rebuilding effort. Without a doubt, the influx of philanthropic support to local organizations—tens of millions of dollars in a matter of weeks after the fire—has also helped sustain the various efforts.

But it's also the result of a lack of institutional leadership. As a census-designated, unincorporated community, Altadena has no mayor. Its population before the fire hovered around 43,000; Barger, the most prominent elected official, represents 2 million people across the county and lives



in a different city a few miles away. And yet even the Palisades, which unlike Altadena is part of the City of Los Angeles, faces similar challenges. It's one dot on the western edge of the city, and there too power is distributed between city and county authorities. Powerful locals with Palisades connections, including Rick Caruso, a billionaire real estate developer who ran against Mayor Karen Bass in the last election, create a whole different set of fractured power dynamics.

The challenge of Los Angeles' balkanized governance is no secret to local leadership. A few months after the fire, a

group of local leaders on a "blue ribbon commission," proposed by the county supervisor representing the Palisades, released a report that suggested creating a unified authority to coordinate rebuilding across the county. The authority could help arrange bulk purchase of materials, create new finance mechanisms to facilitate the rebuild, and even buy property across affected locales, thereby keeping the bottom from falling out. And the report called for the city and county to adopt climate-adaptation measures to ensure the affected areas are prepared for future disasters. "It really was a vision for

A firefighter in Pasadena, Calif., on Jan. 7 of this year, as high winds scatter the sparks of the Eaton Fire

what our entire region could look like in terms of a resilient and fire-safe recovery," says Matt Petersen, the head of the Los Angeles Cleantech Incubator, who chaired the commission.

The recommendations were perhaps too visionary. Bass opposed creating a new entity. Barger opposed an effort in Sacramento to authorize it but said she supported the idea of a rebuilding authority structured differently. In the

meantime, they both worked to expedite permitting. The City of Los Angeles is accelerating permitting for fire-area projects and expediting pre-approved home plans. The county has set up one-stop help desks and waived fees. “Where I’ve been laser focused is looking at where the impediments are, where the barriers are, and addressing them,” says Barger.

New construction will inevitably be built to higher fire standards. Some homes destroyed across Los Angeles were built as early as the 1920s, and the building code has since required fire-resistant materials. The relevant jurisdictions are also enforcing a policy that requires keeping landscaping away from structures. But is that enough? Rebuilding L.A. offers an opportunity to be truly proactive and creative when it comes to climate adaptation, yet that sort of deep thinking is still not at the center of how most people are talking about recovery.

I FIRST MET Stephen Sachs at a big investor conference four months after the fires in L.A. While his house had survived the Eaton Fire, he had scrambled to find business attire for the conference because the stench of smoke lingered on his clothes. Like so many Altadena residents I met, Sachs seemed shell-shocked but eager to do his part.

In his Substack newsletter, *Alta-PolicyWonk*, he has documented—and opined on—the political wrangling happening in city hall, Sacramento, and Washington, D.C. His audience is small, but it is a must read for locals engaged in rebuilding conversations. For much of the year, he promoted his proposed solution: a financial mechanism that would allow investors to fund nonprofits purchasing property in fire-affected areas. The properties would then be sold on the open market in a controlled fashion, thereby stabilizing property values and protecting homeowners.

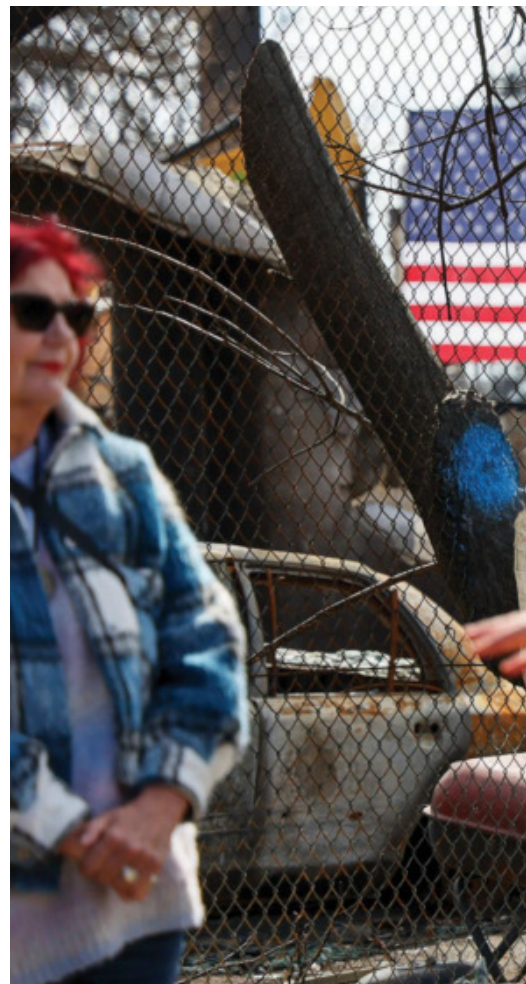
Perhaps more than any other issue, finance is at the center of the recovery effort. Local public infrastructure needs to be rebuilt at an estimated cost of \$2 billion. Many property owners face a gap between their insurance payouts and the cost of rebuilding. Meanwhile, declining property values, reflected in

sale prices as more people cash out, have left many locals unsure about their ability to get a mortgage. A proposed legal settlement from Southern California Edison—the electric utility widely blamed for sparking the Eaton Fire—will go a long way, but for some it may not be enough. (Despite offering the settlement, Edison has not accepted responsibility.)

If Sachs’ fix sounds wonky, that’s because it is. And, even though he worked with the local assembly member to introduce the bill and it eventually passed the legislature, California Governor Gavin Newsom vetoed it in October, saying it would cost tens of millions of dollars. Sachs, a self-identified political independent who regularly supports Democrats, disputes those figures and notes that it’s a small fraction of the \$321 billion state budget. He has been withering in his criticism of Newsom. In his telling, the governor has focused on needling President Trump to the detriment of Californians who need help. “Altadena became a test case without realizing it, caught between macro-level trends that are affecting people in ways they never should have,” says Sachs, referring to the broader political landscape.

Newsom and the state government have taken credit for a speedy response, unlocking \$2.5 billion in state dollars for immediate relief efforts. State officials are keen to tout the state’s role facilitating a quick cleanup and easing environmental permitting rules.

The state, however, insists that the federal government must step up. In February, Newsom asked Congress for nearly \$40 billion in federal aid to help rebuild Los Angeles after the fires. It would be an understatement to say that Congress and the Trump Administration have other priorities. While disaster relief has become increasingly politicized, the federal government doled out tens of billions in special funding in a matter of weeks following previous disasters, like Hurricane Katrina. Funding for disaster recovery this year, however, has received minimal attention on Capitol Hill even as congressional watchers hope to include some relief in must-pass legislation later this year. “There’s no pure substitution for federal engagement and leadership,” California



natural resources secretary Wade Crowfoot told me when asked how the state can fill the gap in federal funding.

The leadership vacuum is almost by design. Upon taking office, Trump has talked about dismantling the Federal Emergency Management Agency in hopes of putting the onus of disaster recovery on states. The move has left hard-hit communities in the lurch—and it’s not just California. Disaster-affected communities in North Carolina, Texas, and elsewhere have unmet assistance needs. Trump also denies the science of climate change and any connection between global temperatures and the associated storms, fires, and floods. Scientists expect the scale of climate disasters to grow. Without investment to minimize the damage, the price tag of those disasters will grow too. Unchecked climate costs are unsustainable for any government—even the world’s largest economy. Trump’s policy logic seems to be that given these costs could grow exponentially, it’s best to pass the buck to the states.



California Governor Gavin Newsom at a news conference in Altadena in February

Any rational economic actor knows that something must be done—even if the government is unable or unwilling to take the lead. Disasters pose risks to the local economy. Thousands of businesses were located in the burn area of the Eaton and Palisades Fires; history suggests that many may never reopen. And, while historically the economic impact of disasters has been relatively isolated, a growing body of research warns that climate disasters could damage the wider economy. Insurers pull out of some places. Mortgages owned by investors are threatened. And the market for municipal bonds could be spooked.

So it makes sense that banks are assessing ways to participate in the recovery. The Altadena Recovery and Rebuild Corporation, a nonprofit initiated by Barger, is engaging with banks on new lending programs to make financing the recovery more affordable for affected homeowners. The details are still under development. Well-established global institutions are trying to figure out a path forward too. “If you pull all the

resources ... there’s absolutely enough capital,” says Barger. “The question is what is that going to look like?”

These efforts are important, but as L.A. approaches the one-year fire anniversary, they are moving too slowly. On the ground, consternation is brewing. Local activists in Altadena have staged press conferences and rallies decrying the local, state, and federal responses—calling for the insurance commissioner to resign and demanding new county oversight, among other things.

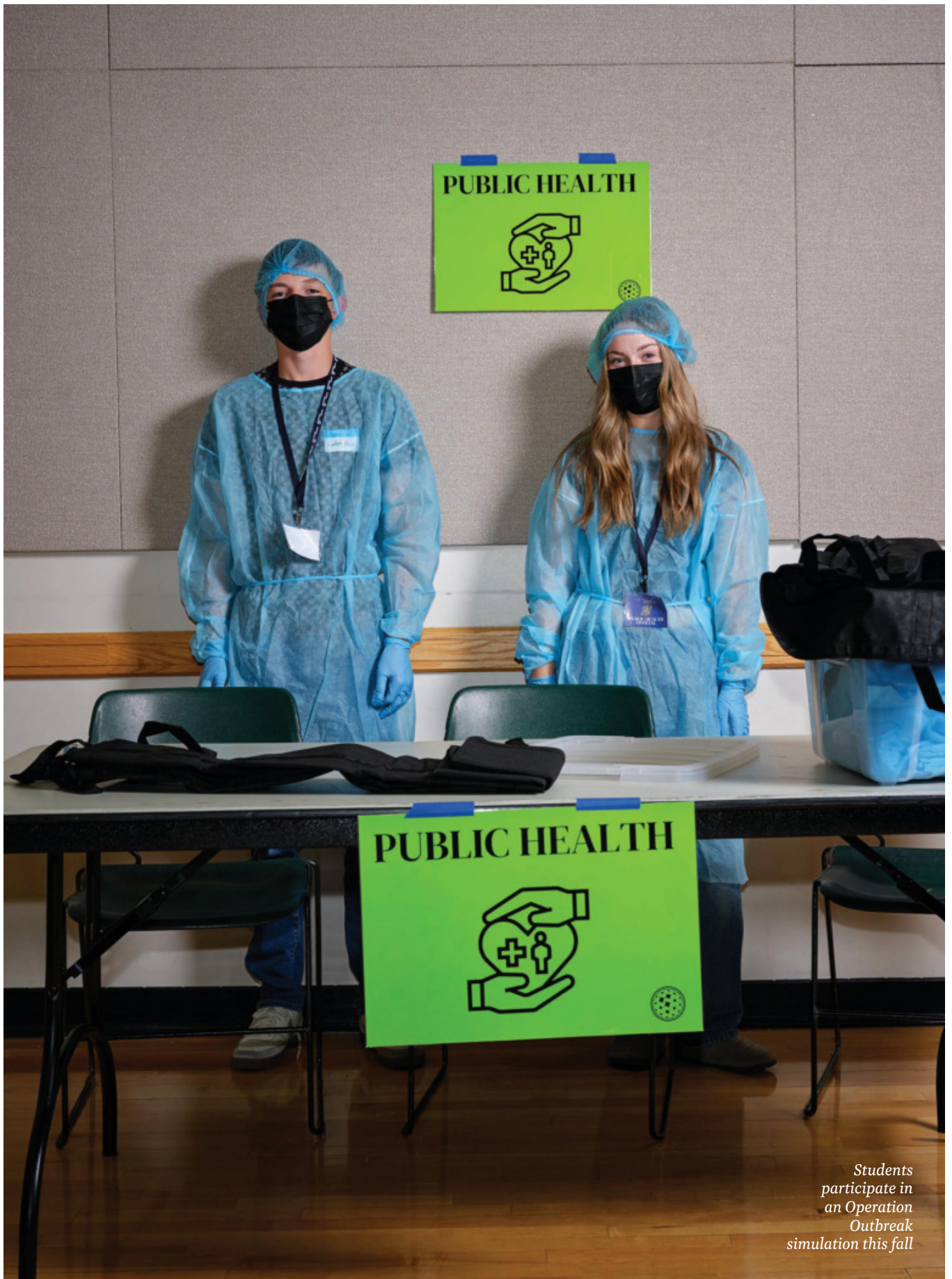
In the Palisades, too, residents have grown frustrated, flocking to town halls to condemn the L.A. fire response. Jake Levine, a former climate official in the Biden White House whose mother lost her home in the Palisades Fire, is now running to unseat the local Democrat who has served in Congress for decades. Levine says the fires have contributed to

resentment that government isn’t working. “Whether you’re in the Palisades and still struggling to find a path forward on a rebuild, or whether you’re anywhere in our district and you’re dealing with an affordability crisis, a public-safety crisis, we have an absent leadership that has forgotten how to deliver,” he says.

Nationally, much of the coverage of this year’s fires has boiled down to two simple narratives: in the Palisades, wealthy celebrities lost their homes; in Altadena, middle-income Black and brown people with less means to get back on their feet lost their homes. There are elements of truth to these narratives. Climate-related events will always be harder to weather for those with fewer resources. But I sometimes fear that these narratives obscure an important reality: climate disaster will strike everywhere. Whatever protection you may think you have, it’s best to think again.

To maintain a healthy society in the time of climate crisis, someone needs to take the wheel. While the day-to-day of insurance, soil, and fire planning occupy headlines, the bigger picture has been lost. Climate change may not be an existential threat in the sense that it will kill us all, but it is existential for the cultural fabric of communities. And climate disasters threaten to bring about political and social fragmentation for the growing number of people affected by them. “It won’t be known until three or four years from now, when the reality sets in,” says Sachs. “When people look around and say, ‘All these communities existed and now they’re all gone.’”

On my last trip to Altadena in October, I decided to do laps through the streets in my rental car, looking for any tidbits that might help inform my reporting. There were signs of life. Fences with construction-company signs in some places, even a few lots with equipment buzzing. Properties with trailers placed in the corner as residents readied themselves for the long haul. But what struck me most were the little American flags installed on street after street of vacant lots. One house still standing on Catherine Street, two blocks west of Lake, displayed a large one, only placed upside down. The international symbol for distress. —*With reporting by* LESLIE DICKSTEIN



*Students
participate in
an Operation
Outbreak
simulation this fall*

HEALTH

A LOSING GAME

IN SIMULATIONS ACROSS THE COUNTRY,
STUDENTS ARE PROVING WE AREN'T READY
FOR THE NEXT PANDEMIC

BY DOMINIQUE MOSBERGEN/OREM, UTAH

ON A FRIDAY MORNING IN OCTOBER, ABOUT 100 high school and college students gathered in a Utah ballroom to play a game. Some students were assigned specific roles and given costumes to wear. “Government officials” slung ties over their T-shirts; “store clerks” sported aprons; and a trio of “journalists” wore fedoras and carried fake microphones.

Kambree Carlile, 16, played a “health care worker” and was given full protective gear to wear, including goggles and gloves. As students started getting “sick” with a mysterious and deadly pathogen, panic surged, Carlile says. “It wasn’t a real scenario, but people still got very frantic,” she says.

Students thronged the health care and public-health stations for advice and vaccines, ignoring calls by workers to socially distance. One “infected” student ran around, intentionally coughing on people, causing panic.

One of the “journalists,” 17-year-old Kenadi Burlingame, complained that it had been hard at times to get anyone to listen to her. “The

‘public-health’ people told us that we need to start getting people to quarantine, but I felt like no one really did that. They didn’t see the importance in it,” she says. “That was frustrating.”

Meanwhile, the “biomedical researchers,” who donned white lab coats and were tasked with identifying the pathogen, were baffled by the myriad symptoms that sick people were reporting, including fever, aching muscles, and malaise. “It could be anything,” one of them lamented as she googled people’s symptoms and uncovered a long list of possible diseases.

The students were playing Operation Outbreak, a game that simulates the spread of an infectious disease. During the game, participants use an app on their phones, which alerts them when their avatars are infected and lists their symptoms. The pathogen “spreads” via Bluetooth, from phone to phone.

Creators of the game say it can model how people really behave when disease outbreaks strike. The game has become so good at this that U.S. government agencies including the Federal Bureau of Investigation and the U.S. Centers for Disease Control and Prevention have run its simulations.

In Utah, students who weren’t given specific roles were designated as members of the public and grouped together in “families.” The families moved around the room together, visiting stations where they had to answer questions about infectious diseases and public health. The “bank” paid the families in tokens for correct answers. The tokens could be used by the students to buy food from the “store” to keep their avatars alive, as well as masks and vaccines.

“I thought it’d be just a little school activity, but it was realistic,” says Burlingame. “It made me feel sympathetic for people during COVID.”

Burlingame was in fifth grade when COVID first gripped the globe in 2020. “I just remember that one day I was at school and everything was normal, and then the next day the world had shut down,” she says. She remembers it seeming almost apocalyptic at first: the same week that Utah public schools were shuttered, the Salt Lake City area where she lives was shaken



^ In the game, players are given roles ranging from scientist to government official to ordinary citizen—and the power to stop the fictional disease, or drive society to the brink

by an earthquake and dozens of aftershocks. Burlingame, then only 11, was spooked. Some 5,400 people died from COVID in Utah from 2020 to November 2023.

The teenager is prudent when reflecting on that tumultuous time. “There could be another outbreak,” she says, “and what would we do about it?”

THE CREATORS of Operation Outbreak say the game is designed precisely to address this question. It seeks to teach students about the science and risks of infectious diseases, and how interventions such as vaccines and quarantining can curb their spread, says Todd Brown, a former middle-school teacher and one of the game’s co-creators. It also aims to highlight the vital role that every member of society—whether scientist, doctor, government official, or everyday person—plays when outbreaks strike.

“This is a test run,” Brown says. “This is a chance for students to learn how they can potentially save lives, how they could help stop the spread of some-

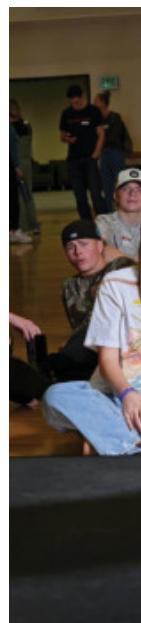
thing in ... their school or community.”

Upping the urgency for such preparedness is the prediction by many public-health experts that another pandemic is not just inevitable but close at hand. “We need to be prepared for another pandemic in the next 10 years,” says Pardis Sabeti, an infectious-disease professor at Harvard University and researcher at the Broad Institute who helped create Operation Outbreak.

COVID was still a distant, unknown threat when the game launched in 2017. Versions of it have since been played by thousands of students in two dozen U.S. states and 10 countries. Its creators say interest in the game increased sharply post-COVID.

“We’ve found that the students tell us the zeitgeist. They tell us the pulse of society, everything that might be coming,” Sabeti says. “We could have predicted a lot of what happened during COVID based on simulations that we did pre-pandemic.”

Students in pre-COVID simulations spontaneously came up with “immunity passports”—ways that participants could prove their vaccination status to get into certain spaces. Participants also hoarded supplies, broke quarantine, and even intentionally tried to become superspreaders, a phenomenon later also seen during the pandemic. “We





saw chaos, protests, people acting out,” Sabeti says. “Outbreaks expose and exploit all the cracks in our society. Any kind of injustice or issues you have are going to go on steroids—and that’s what we saw in these simulations.”

In some cases, students who had roles of authority disseminated information about the outbreak that later proved to be wrong, often because they spoke too soon in response to public pressure or because new information later became available. “That showed students how science can change as you get new information,” says Brown, the former teacher who now serves as Operation Outbreak’s director of innovation and training. But the fluctuations in messaging often triggered malcontent among members of the community.

Game organizers say that mistrust of officials, scientists, and journalists has only become more common in simulations post-COVID. Participants are also more prone to unruly behavior. “At some of our schools, we’ve seen complete societal breakdown, anarchy, and militia,” Sabeti says. (And that was despite students’ taking the game seriously.) “These are things we hadn’t seen before COVID,” Sabeti says.

She recalls, for example, a March 2024 simulation at a Utah high school that ended in total chaos. After the

“government” struggled to fund health agencies and “researchers” were slow to identify the pathogen, disorder and misinformation swelled. A “journalist” spread fake news about masking, people began stealing from the “store,” and a “government official” went rogue—robbing the “bank” and throwing tokens at a crowd. “I represent government intervention,” he declared, according to an internal report of the simulation compiled by game organizers and shared with TIME. “Money to the people!”

Amid the bedlam, participants called for a police force to be established and a “jail” was created. The “government official” who stole from the bank was impeached. About an hour into the simulation, the new police force issued arrest warrants for multiple people, including someone who “sold ‘fake vaccines’ to make a profit,” said the report. At 80 minutes, as the simulation came to an end, the report said several students were “running and fighting each other, some arresting others.”

“It scared me,” says Sabeti. “It suggests that society has formed antibodies to the idea of an outbreak. People are easily triggered, so the next time someone comes on the television and says we are having a lockdown, we could see militia and anarchy.”

Since the COVID pandemic, Americans have lost faith in previously respected institutions. Almost 1 in 4 U.S. adults said in 2024 that they had little or no confidence that scientists would act in the best interests of the public, according to a Pew Research Center survey. In 2019, that figure was 1 in 8.

Only 22% of Americans said they trusted the federal government to do the right thing always or most of the time, according to a different Pew survey from 2024.

“We need to do a lot to repair, because when the next pandemic hits we will be in trouble,” Sabeti says.

PANDEMICS ARE EXPECTED to occur more often and become more deadly because of climate change, globalization, and more frequent encounters between people and the billions of livestock we raise to eat, as well as wild animals whose habitats we have diminished, public-health experts say.

“It’s going to be less of a freak biological occurrence and more like hurricanes, which are increasing and becoming more devastating,” says Jennifer Nuzzo, director of Brown University’s pandemic center.

It is hard to predict which pathogen could launch the next global health crisis, but infectious-disease experts say

they are closely watching various outbreaks worldwide for signs of pandemic potential. A rapidly mutating strain of mpox continues to spread across Africa and beyond. Avian-flu strains are circulating in livestock and poultry with some spillover in people.

A manufactured pathogen is also a danger, Sabeti says. Thanks to advances in biotechnology and AI, a single rogue actor can now feasibly create a biothreat, and because of that, “anything is possible,” she says.

OPERATION OUTBREAK WAS first conceived in 2015: Ebola was ravaging West Africa, and Brown was a civics teacher in a Florida middle school. One day, a student in his class asked what would happen if Ebola came to the U.S.

“I responded honestly. I said, ‘I have no idea,’” Brown recalls. “So I posed the question back to the class, and we had this exciting discussion.”

Encouraged by his students’ enthusiasm, Brown brainstormed ways to further engage them on the subject of infectious diseases. It was a topic that was deeply personal to him. Brown’s son is severely immunocompromised, and outbreaks—including the yearly flu season—terrify his family.

Brown had recently read a profile of Sabeti, who had helped develop tools to detect and track deadly diseases including Ebola, in an issue of *TIME*. Brown emailed her, and the pair ended up on the phone. He told her that he was planning to put together a simple outbreak simulation so his students could get some hands-on experience. Sabeti, who had herself experimented with outbreak simulations in her Harvard classes, asked him to stay in touch.

A few months later, Brown assembled some middle schoolers in a field and, using stickers to indicate who had been infected, attempted to simulate what an Ebola outbreak might look like. It wasn’t very sophisticated, but the kids loved it, Brown says. “I reached back out to Pardis with pictures ... And it all kind of snowballed from there.”

Sabeti says she saw an opportunity to create something fun, educational, and sorely needed. Her lab set about designing an Operation Outbreak app that could realistically mimic an outbreak.

Andres Colubri, a researcher in her lab, had been working on contact-tracing software, which he adapted so it could be used as part of the app to spread a hypothetical pathogen via Bluetooth.

With the help of data-visualization expert Ben Fry, the group also created a dashboard that could display data generated during the simulation, including contact-tracing data and the number of people infected and vaccinated. “The tools we made for the app are the same tools we are creating for outbreaks around the world. Students are working with best-in-class technology,” Sabeti says.

Operation Outbreak is free to use and has been played by schoolchildren from Shanghai and Sierra Leone to Paris and Toronto. Organizers can choose

get to learn more about different career paths,” says Nichole Kellerman, a biology teacher who has organized Operation Outbreak simulations in two Maryland high schools.

Carlile, the 16-year-old who took part in the Operation Outbreak simulation in Utah, was surprised by how much she enjoyed the game. “I thought it would be weird, just this thing you’d play on your phone, but it was actually really neat to see this virus spreading really quickly and this whole city that was created,” she says.

Along with about 70 of her classmates, Carlile, a junior at Utah’s Lehi High School, played the game at Utah Valley University (UVU) in Orem on Oct. 3. About 30 college students also took part.

Micah Ross, an assistant professor of biology at UVU who organized the simulation, says that despite some turmoil, the students managed the outbreak well. The “biomedical researchers” cracked the mystery of the pathogen’s identity—it was influenza—in just 40 minutes. Once a vaccine was introduced, most students chose to get immunized, and the spread of the disease slowed.

Ross says the game helps students become more scientifically literate and can also be a useful research tool. She co-leads a research group at UVU and runs a class every year in which students are encouraged to use Operation Outbreak as a way to collect and analyze novel data. Her research group is currently working on a study probing whether certain demographic factors influence participants’ decisionmaking in simulations conducted in Utah.

“We’re curious if there are some decisions that are made more often, say, down south that aren’t made by populations up north. What leads people to getting vaccinated? What factors may cause them not to get tested?” Ross says, noting that the outcome of the study could help inform public-health policy.

Exposure to Operation Outbreak has prompted many of her students to pursue career paths in public health or research, Ross says. “It also helps students become a little more confident in their ability to relate to what’s happening in the world and say, ‘Hey, I’ve been in that position, even if only for an hour.’” □

**‘WE COULD HAVE
PREDICTED A LOT OF
WHAT HAPPENED
DURING COVID.’**

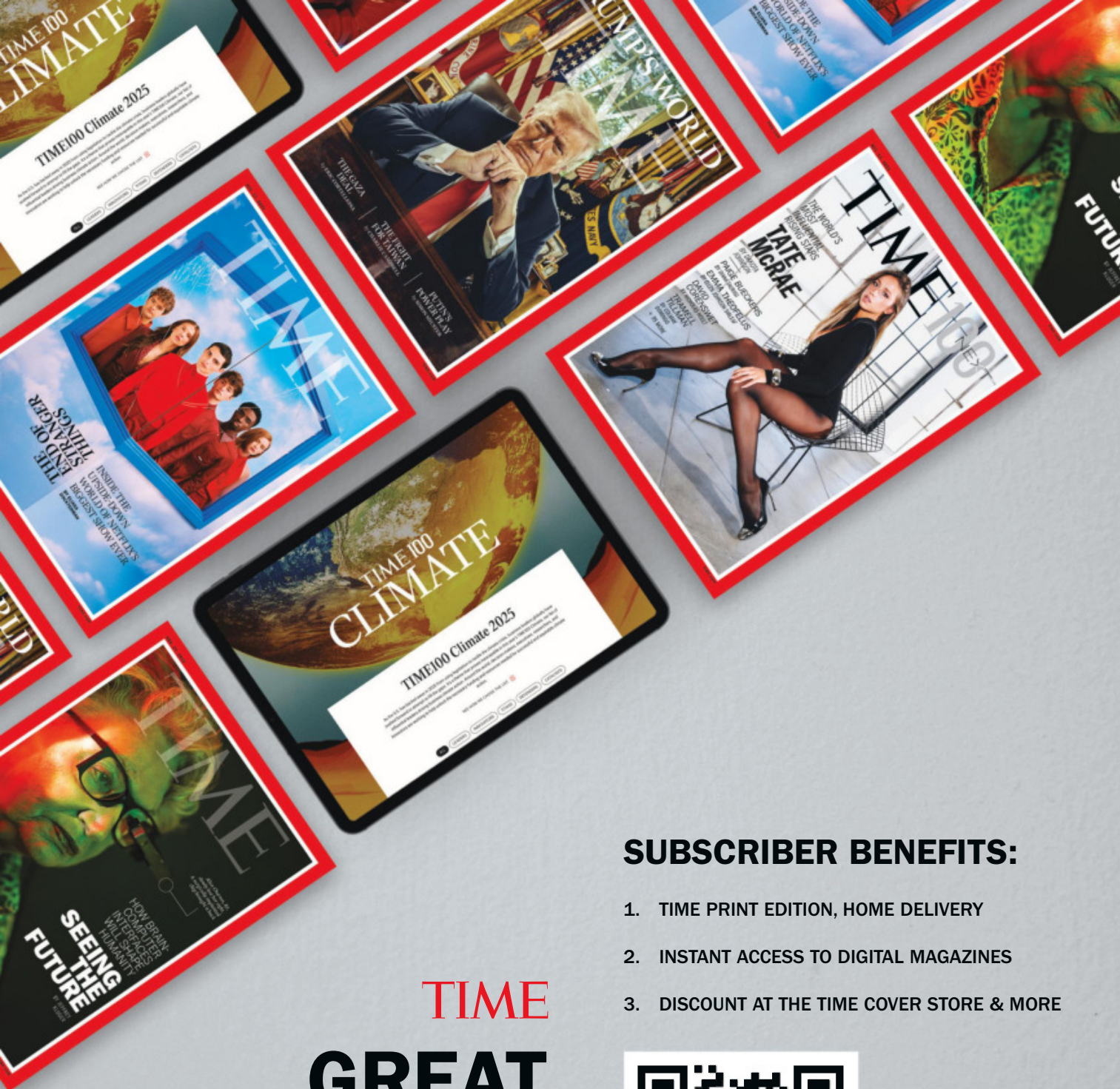
—**PARDIS SABETI,**
INFECTIOUS-DISEASE EXPERT

from a variety of possible pathogens to simulate—from coronaviruses and measles to Marburg virus and tuberculosis.

Kian Sani, Operation Outbreak’s chief of staff, says the hope is to bring the simulation to more professional groups in the near future—including public-health departments, first responders, and companies that might want to bolster their employees’ outbreak preparedness.

Teachers who have organized the game say they like the simulation because, though outbreak science is not typically taught in schools, it complements what students are already learning about biology and civics.

“It helps kids understand the science behind vaccines and being sick and how research works, but also it’s a great pipeline for careers because they



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Photos of the Year

An aerial photograph showing a vast crowd of people, identified as displaced Gazans, gathered on a sandy beach. The crowd is densely packed, extending from the water's edge towards a concrete barrier on the right. The sea is visible on the left, and the sky is clear. The image captures a significant moment of mass movement.

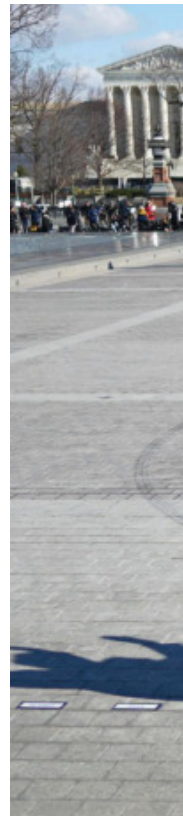
As the world both celebrated and mourned in 2025, the camera saw it all

HOMEWARD BOUND

As many as 300,000 displaced Gazans streamed northward on Jan. 27, after Israel reopened the Netzarim corridor, which bisects the Gaza Strip. Carrying their belongings in plastic bags and flour sacks slung over their backs, they were returning to homes that had likely been reduced to rubble during 16 months of war.

*Photograph by AFP/
Getty Images*





▲ **DEATH FROM THE SKIES**

Hurricane Melissa lashed seven Caribbean countries after making landfall in Jamaica on Oct. 28 as a Category 5 storm with 185 m.p.h. sustained winds. In Petit-Goave, Haiti, south of Port-au-Prince, cars were adrift in a river of mud. The storm claimed at least 90 lives before moving out to sea.

*Photograph by Clarens Siffroy—
AFP/Getty Images*

▲ **TEARS OF SYMPATHY**

After her husband was detained by ICE agents on Aug. 20, a woman with her child wept outside a federal building in New York City; a security guard was moved to tears as well. There was no word at the time on if the detained man faced any criminal charges. In July, Homeland Security reported a 400% spike in ICE detentions in the city, compared with the full term of the Biden Administration.

Photograph by Carol Guzy





CHANGING OF THE GUARD

The new first and second couples bade farewell to the departing Joe and Jill Biden after President Donald Trump was sworn in for his second term on Jan. 20. A bitter Washington cold—mirroring what was, for some Democrats, a bitter electoral loss—forced the Inauguration ceremony indoors.

*Photograph by Doug Mills—
The New York Times/Redux*

OFF THE PODIUM

If they were disappointed at failing to win Best in Show at the Westminster Kennel Club Dog Show in New York City on Feb. 11, these look-alike Bedlington terriers didn't show it. The brass ring went to Monty, a 5-year-old schnauzer and the first of his breed to win the big prize.

*Photograph by Andres Kudacki—
Getty Images*





WESTERN HELL

The year started off hot and horrifically in Southern California as a series of wildfires, fueled by dry conditions and fierce winds, put more than 40,000 acres to the torch and claimed at least 29 lives. Here, victims of the Eaton Fire, which all by itself incinerated more than 14,000 acres, stood outside a burning home on Jan. 8.

*Photograph by
Ethan Swope—AP*



Photos of the Year

A DIFFERENT LEADER

On the eve of Venezuelan President Nicolás Maduro's Jan. 10 inauguration for a third term, opposition leader María Corina Machado greeted throngs of supporters in Caracas. Leader of the pro-democracy Vente Venezuela party, she has been blocked by the government from running for President. In October, she was awarded the Nobel Peace Prize.

Photograph by Ariana Cubillos—AP

DRESSED FOR BATTLE

A protester wearing a gas mask and garbed as a whirling dervish was pepper-sprayed by police during a face-off in Istanbul on March 23. Demonstrators

were reacting to the government's detention of opposition politicians, businesspeople, and journalists—arrests they decried as politically motivated.

Photograph by Chris McGrath—Getty Images





▲ FREE AT LAST

Eli Sharabi spent nearly 500 days as a hostage of Hamas following the attacks of Oct. 7, 2023—not knowing that his wife and two daughters had been killed that day. In Tel Aviv on Feb. 8 of this year, his extended family hugged, rejoiced, and even swooned as they watched a broadcast of his release following a cease-fire.

Photograph by Ariel Schalit—AP

▲ THE WAIT FOR WHITE SMOKE

Nuns gathered in St. Peter's Square in Vatican City on May 7. The sisters, like much of the world, were awaiting the selection of the new Pope after the

death of Pope Francis on April 21. The Cardinals ultimately chose American Robert Prevost, who took the name Pope Leo XIV.

Photograph by Jeff Pachoud—AFP/Getty Images

Photos
of the
Year





FLAMING RIVER

On and off throughout 2025, Italy's Mount Etna did what it's been doing since antiquity, which is to say it blew its top. On June 2, the mountain erupted with a pyroclastic blast—a hot, ground-hugging cloud of ash and gas. In August, Etna blew again, unleashing its lava flows. The length of the molten river exceeded 2.5 miles.

Photograph by Marco Restivo—AFP/Getty Images





YET MORE WAR

Despite entreaties from Europe and Washington, Russia's war on Ukraine ground on into its fourth year. On July 24, Russian bombs exploded in and around the city of Kharkiv, forcing one woman to flee her apartment, carrying her dogs to relative safety. Over 40,000 civilians are believed to have been killed in the war so far.

*Photograph by
David Guttenfelder—
The New York Times/Redux*

Photos of the Year

INHERITING THE SPOILS

The people who built this abandoned research station on Kolyuchin Island in Russia's far east may not have any further use for it, but a pair of polar bears apparently does. Camera-bearing humans and overflying drones have photographed bears taking up residence in the building, especially in inclement weather.

*Photograph by
Vadim Makhorov—AP*





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Time Off



JON CHU'S AMERICAN DREAM

BY ANDREW R. CHOW

The Wicked: For Good
director on trying to
change the world, one
blockbuster at a time

INSIDE

HOW *HAMNET* BECAME A FAMILY
AFFAIR FOR THE JUPE BROTHERS

CLAIRE DANES AND MATTHEW RHYS
PLAY NEIGHBORS AT ODDS

KEN BURNS FINDS NEW WAYS
INTO THE AMERICAN REVOLUTION

THERE'S A MOMENT IN *WICKED: FOR GOOD* WHEN Elphaba (Cynthia Erivo) is debating whether to flee. The Land of Oz, led by Jeff Goldblum's conniving Wizard, is full of injustice and idiocy. But running won't change that. Maybe, she thinks, she should stay, and work to improve it. "Oz is ... a promise, an idea/ and I want to help make it come true," she sings.

Few people understand this sentiment better than the movie's director, Jon M. Chu. Chu has been enmeshed in the Hollywood studio system for close to two decades, churning out splashy box-office hits based on existing IP: *Step Up 2: The Streets*, *G.I. Joe: Retaliation*, *Crazy Rich Asians*. His ability to appeal to America's middle and to global audiences alike has made him one of the most bankable directors in the business—and an exemplar of the American Dream.

"He has so many superpowers as a director, I'm not sure where to start," Ariana Grande, who plays Elphaba's foil Glinda, wrote in an email to TIME. "His heart and his innate understanding of the human experience. His empathy."

But as Glinda learns, sometimes embedding yourself within a powerful machine means selling false dreams. "The system disappoints me all the time. When the dream shatters, and when you know the truth, who do you become?" Chu asks during an interview in Manhattan in late October. "This is me, this is America, looking back at the things we believed in: the stories we were told by Spielberg and Walt Disney; Michael Jackson making us believe we could float on air. Now we're in a different era, we have all the information. Do we still believe in those things?"

Chu, 46, has blossomed into a major Hollywood force at a time when filmmakers are at the mercy of corporate mergers and streaming overlords. Ticket sales have cratered, while AI accelerates as an existential threat. Given all this, Chu could have replicated Elphaba's "Defying Gravity" moment: to leap off the balustrades and fight the system from the outside. But that's not who he is. "I wish I was Elphaba. The thing I hate most about myself is the pleasing part," he says. "I grew up in the restaurant business, and that's what you do. But maybe if I rise above it, I can maneuver and give them what they want, but get what I need."

So Chu has assumed a Glinda-like role at Hollywood's center: *Wicked: For Good* arrives Nov. 21, riding on the massive coattails of last year's Part I, which brought in more than \$750 million globally. Chu is betting that if he can reach enough people through blockbuster stories driven by optimism and empathy, maybe the shadows he casts on America's walls can spring to life. "In order for us to change things, stories are at the center of it all," he says. "To give people light and joy within the messiness: it is the flower that grows out of the concrete."

CHU'S 1980S CHILDHOOD was the embodiment of the Reagan-era American Dream. His father, an immigrant from China, owned Chef Chu's in Silicon Valley, where Steve Jobs and other tech elites were regulars. His mother called him Jon-Jon, a reference to JFK Jr. "I am the product of this beautiful idea of what America is," he says.



Chu and Erivo on set, filming a scene in the *Emerald City*

Chu's parents took him to the movies and musical theater, and he developed a love for directing, facilitated by equipment donations from restaurant patrons. When he started making films, he quickly realized the power of cinema to veer toward emotional manipulation. "I would do videos for my church, and saw everybody cry and get involved so much that I was like, 'I don't think this is about God,'" he remembers. "I saw it was dangerous, and I stopped." But he didn't give it up for good. Chu attended USC, where his classmates pigeonholed him as "the guy who's gonna do studio movies." He got a major break when Steven Spielberg saw one of his shorts and helped him get meetings with execs.

But Chu struggled to get his own ideas made, and was often mistaken for someone off the call sheet altogether. "They would tell me, 'Deliveries are around the corner,'" he says. "So I always feel like the underdog."

Chu has thrived, in particular, in the creation of audacious, technically challenging set pieces, whether it be the playing-card heist in *Now You See Me 2* or a defying-gravity dance sequence for *In the Heights*. "Jon loves to do things that have never been done,"



says Christopher Scott, the choreographer on *Wicked*. “He’s a conceptual genius.”

As the industry lurched haltingly toward greater representation in the 2010s, Chu was tapped to helm *Crazy Rich Asians*, an escapist fantasy set in Singapore. Some dismissed the story as materialistic. But Chu saw an opportunity to shift the perception of Asian faces and stories in the first Hollywood blockbuster in 25 years to feature a contemporary narrative with an all-Asian cast. “Sometimes the audience is like, ‘That’s not beautiful.’ And I’m like, ‘No, but it is. You just don’t know it,’” he says. Chu was less interested in having viewers idolize the movie’s Ferraris and palaces than the people in them: “We wanted to change visual language to say, this is what a movie star can look like.”

The movie became the highest-grossing romantic comedy of the 2010s, cemented the status of Asian actors like Michelle Yeoh and Awkwafina, and crystallized Chu’s vision that he could spur social change while keeping his studio bosses happy.

“To have a movie that entertains and has a message is a delicate dance,” he says. “If I go all the way in on just

entertainment, the reason to do it goes away. And if I go all the way into just meaning and no one comes to see it, then what’s the purpose?”

WICKED IS THE GRANDEST manifestation yet of Chu’s two-pronged ambition. He took over the long-simmering adaptation during the pandemic, as social unrest rippled across the country. Chu says that he, Erivo, and Grande bonded over a shared vision. “With Cynthia and Ari, it was definitely a conspiracy. We looked at each other like, ‘They don’t know what we’re gonna make in this,’” he says.

Wicked, released last November, stormed its way to No. 5 at the 2024 global box office and 10 Oscar nominations, among numerous accolades. Many more will undoubtedly arrive for part two, which Chu shot at the same time as the first. But the film is undeniably darker. Elphaba and Glinda no longer attend Shiz University, where their story unfolded during lighthearted dining-hall dance numbers. Now, they are navigating their roles in a society defined by familiar themes: surveillance, propaganda, and deportation—in the movie’s world, it’s the animals who are under attack.

Chu knows how this will hit audiences in 2025, even though its ideas date back to Gregory Maguire’s 1995 novel, and the musical’s post-9/11 Broadway debut in 2003. “And a lot of the ideas were in *The Wizard of Oz* 100 years ago,” he says. “But even a month ago, it became more relevant than months before: animals in cages.”

Wicked also furthers Chu’s mission of improving mainstream representation. The movie features a Black Elphaba (Erivo); an Asian Madame Morrible (Michelle Yeoh); and the first Nessarose to be portrayed by a wheelchair user (Marissa Bode). The movie, however, arrives as Hollywood

is backsliding on diversity amid President Trump’s war on DEI. Chu says that “of course” he’s seen the industry regressing. “But I’m sick of debating it,” he says. “Michelle Yeoh as Madame Morrible: Could that be a debate? Sure, but I have the power to just do it, and it kills the debate.”

CHU NOW HOLDS inordinate power to make projects happen. But he’s not going indie anytime soon. “I feel the responsibility to continue to speak on the biggest level possible,” he says. The projects he’s working on include adaptations of Dr. Seuss’s *Oh! The Places You’ll Go!* and Andrew Lloyd Webber’s *Joseph and the Amazing Technicolor Dreamcoat*, and films based on Play-Doh and Hot Wheels.

Those last two mean that Chu’s big plans include being a part of corporate America’s push to monetize their brands, building off the success of *Barbie*. Chu’s centrality to the American entertainment machine is now so massive that it’s fair to question whether he should be compared not to Glinda or Elphaba, but to the Wizard himself. Chu says he understands where the Wizard is coming from: Narrative is extremely powerful in shaping our collective psyches. “We need the story of God, whoever you think it is, of government, of nation. Because we’re so scared of the unknown that this gives us a little bit of structure to exist on.”

But while other leaders have staked their visions on fear, Chu is staking his upon joy and empathy, creating worlds in which people see each other as full, flawed individuals, in which wonder springs forth. Chu knows many will see this conviction as naive. But he doesn’t. He’s been willing his dreams into existence, every single day on set for his whole career.

Scott, Chu’s longtime collaborator, emphasizes his growth as a leader. “He feels the most confident to do the most change through the system,” he says. “But I’ve also seen him take stands: ‘This is what we’re doing, or else I don’t need to be part of this.’” It’s clear Chu has maintained his Glinda worldview—but emerged on the other side with an Elphaba edge. □

‘He has so many superpowers as a director, I’m not sure where to start.’

ARIANA GRANDE, WHO PLAYS GLINDA



INTERVIEW

Brothers in arms, and Shakespeare

BY ESTHER ZUCKERMAN

THE NEW FILM *HAMNET*, BASED ON MAGGIE O'FARRELL'S award-winning 2020 novel, imagines how William Shakespeare wrote *Hamlet* in a haze of grief over the death of his son. In a sly bit of casting, director Chloé Zhao, the Oscar-winning filmmaker behind *Nomadland*, chose brothers to play the doomed child and the actor portraying his onstage avatar.

Jacobi and Noah Jupe grew up in the U.K., raised by a producer dad and actor mom. (They also have a sister.) In the movie, they both share scenes with Paul Mescal, as the Bard, and Jessie Buckley, as his earthy wife Agnes. The Shakespeares are presented as loving parents who view the world differently—William is dedicated to his craft, Agnes to the mystical qualities of the land. After *Hamnet*'s death, both fall into despair, but are unable to reach one another.

The younger Jacobi, 12, is *Hamnet*, a sensitive boy who dreams of a future in theater. Noah, his 20-year-old brother, best known for the *Quiet Place* movies, delivers the most famous monologue in history. Their resemblance is key to the movie's emotional resonance. Agnes, watching the play at the Globe, is at first frustrated her husband is using their tragedy as fodder, but soon comes to recognize how he has funneled his sorrow into art. In Noah's face, she recognizes her loss. This is deeply sad material, and when the Jupes speak with *TIME*, they are serious about their work, but lighthearted with each other, quick with sibling ribbing but proud of one another's accomplishments.

^
Hamnet
(Jacobi Jupe)
with sisters
Susanna (Bodhi
Rae Breathnach)
and Judith
(Olivia Lynes)

Jacobi, did you always want to follow in your brother's footsteps?

Jacobi: I first saw my brother doing it when I was 2 or 3. I didn't really understand what he was doing. Then I went on set and it made me really excited. When I was around 6, I asked my mum, "How do I be an actor?" I managed to get on a tape for *Peter Pan* [& Wendy]. That was my first job.

Who got involved with *Hamnet* first?

Jacobi: I did multiple [auditions] with different girls who were going to play [my twin sister] Judith. Then I did some solo auditions, and my first was with Chloé. We did improv. It was very emotional. I had to pretend my dad was being taken away, and try and convince Chloé to let him stay.

Noah, how were you cast?

Noah: Now when I think about it, it feels so right that we're both part of this film. But at the time it was just [Jacobi]. I was super excited, cheering him on. So proud of him.

Jacobi: He was also a bit jealous.

Noah: A bit jealous. Me and Chloé had met a year previous, and I just loved her to bits. Once he'd started shooting, he was telling me all these stories about how emotional and kind everyone was. Two months into their shoot,

I was shooting in Greece, and I got a call from my mom and Chloé, and they're very giddy and smiling. They say, "How would you feel about playing Hamlet?" It was something you just cannot turn down.

Jacobi, how did you prepare for this very intense role?

Jacobi: It's a very tough thing to do, and especially dying, that's so awful. I've done quite a few roles now where I died, and my mum told me that I was going to be dying again. I was a bit annoyed at first, because I actually wanted to get through a role where I don't die. But it was definitely worth it. The experience was incredible.

Noah: That was what I was jealous about, because our mom knows that my whole life, all I've wanted to do is die in a film and I've never got to do it. And Jacobi just kept dying in everything, but he hated it. I was like, "Why can't we just switch around? I'd love to die. It sounds like too much fun."

Noah, when did you get to set?

Noah: Jacobi and I were never meant to cross paths. But the moment was too good to not have both Jupe brothers on set. So Chloé wrote a scene where Jacobi comes onstage at the end. I think she wanted to surprise Jessie, because the whole time, me, Jessie, and Paul were all doing these performances, and on all of our minds was Jacobi. I'm thinking about trying to connect to him so it's like we're, in a weird way, playing one character. Chloé wanted Jacobi to walk through the void onto the stage and get Jessie's reaction, which was awesome.

What was it like playing a version of the same character?

Jacobi: It was funny, because me and Noah don't really look like each other, so they had to dye Noah's hair blond.

Noah: I got to set, and Chloé walked into the trailer and she was just like, "Oh my God, you look nothing like Jacobi." I was like, "I know." She's like, "No one's going to believe that you're related." But we worked it out.

Noah, did you get to see any of Jacobi's scenes before you filmed?

Noah: I asked to see his death, and Chloé showed me a couple of takes, which was harrowing. I wanted to nod to that a little in Hamlet's death when he's poisoned, that guttural scream that Jacobi was doing that was heart-breaking. But she didn't want to show me much. I think she was more excited about me seeing it in its final form, which I'm glad I waited for, because it destroyed me.

Were there moments of levity on set?

Jacobi: The biggest moments were the dance takes. Me and Olivia [Lynes, who plays Judith] were [working on the scene in which] I found out she was ill. And Chloé just suddenly goes, "On Friday, we're going to do a dance take." Me and Olivia both looked at each other and went, "What's a dance take?"

Noah: The process of most dance takes is you start the scene as you normally would, then the song comes on and you dance your way out of it.

Jacobi: We were supposed to do the dance take on a Friday, but it was Wednesday, and I died. I went to Chloé, "Chloé, I just died. Please, can we do a dance take?" And Chloé was like, "OK, fine." And I went, "Can we do it to 'Stayin' Alive'?"

Do you ever share acting tips?

Noah: More than anything, we've just shared love and support for one another. We have a lot better mentors than each other to teach us about acting. Jacobi's working with the most amazing people. I've had the chance to work with some really cool people. But it's just a sense of being there for one another and having a sense of normalcy. When we're together, it's not about the films. It's not about acting as an art form. It's just about being brothers.

How do you decompress?

Jacobi: Probably watching a movie because we love movies so much. When I was younger, we did stunt fighting. Lightsabers, swords, anything we could find. Even just a couple of sticks. [We] would choreograph fights and film them on the trampoline, and just spend hours doing these fights.

Noah: It was also interesting because we both have a stunt fight in this film.

What was your reaction to seeing the final film?

Jacobi: I was crying the entire way through. It was shocking to see it all come together onscreen. I was in awe of it.

Noah: It almost felt emotional in reverse. I'd been part of the end, so I knew that inside out. I was most emotional seeing how beautiful it was when it started. Above all is Jacobi. My expectations were high. He's a very talented kid. But his performance was at another level.

Jacobi: The bit that I cry most at is when my brother dies. It's different when you watch yourself die, because I knew I wasn't dead, but my brother's such an incredible actor that I just believed it.

Noah: It's the first time I've seen someone in a performance that I know so intimately that isn't myself. Normally, you're watching yourself, you have criticisms for yourself. You feel a bit dissociated. But with my brother, I could just be completely invested and not have self-consciousness about how the performance was.



REVIEW

The journalist and the jinx in a suburban standoff

BY JUDY BERMAN

CLAIRE DANES GETS A LOT OF ATTENTION for her “cry face.” It is, indeed, a sight to behold. Engulfed by waves of sorrow, her chin vibrates, her eyes scrunch, the corners of her mouth turn down as though tugged by invisible weights. But the crying is just an extreme expression of Danes’ greatest asset: her ability to convey abjection. This quality shaped her performances in roles as different as *My So-Called Life*’s angsty teen Angela Chase and the doomed female lead in *Romeo + Juliet*, the bipolar CIA agent in *Homeland* and the Manhattan supermom of *Fleishman Is in Trouble*. Even surrounded by misfit buddies or concerned colleagues, her characters feel wholly, miserably—but also, somehow, relatably—alone.

Loneliness happens to be the defining attribute of Danes’ latest antihero, Aggie Wiggs, the Pulitzer-winning journalist at the center of the Netflix cat-and-mouse thriller *The Beast in Me*. Still racked with grief years after her young son’s death in a car crash, divorced from the wife with whom she was raising him, and paralyzed by writer’s block, Aggie can’t let go of pain for which she blames everyone but herself. She is the best character Danes (also an executive producer) has given us since *Homeland*’s Carrie Mathison. And the ideally cast, impeccably paced, diabolically addictive eight-episode murder mystery that she anchors is one of the year’s most suspenseful rides.

AGGIE IS SUPPOSED to be writing a book on the unlikely friendship between Ruth Bader Ginsburg and Antonin Scalia. Instead, she has been moping around the crumbling Long Island money pit she used to share with her ex Shelley (Natalie Morales) and their little boy (Leonard Jerome), fixating on the possibly drunk young driver, Teddy (Bubba Weiler), she



Long Island, compromised: Danes and Rhys play neighbors ruled by their anger

believes caused the accident. This holding pattern is broken by the arrival of a new neighbor: Nile Jarvis, a notorious real estate mogul played by Matthew Rhys. Cleared of his late wife Madison’s (Leila George) murder—but presumed guilty by the court of public opinion—Nile has moved into the estate next door to Aggie with his new wife Nina (Brittany Snow). And he’s a fan of Aggie’s work.

But Nile is unimpressed by her current project, which she describes as a balm for a polarized society. “No one wants hope,” he scoffs. “They want gossip and carnage. If you want another best seller, you should write about me.” Aggie is surprised he’d be open to that. He seems to trust her, though, because he identifies with her. In her rage at Teddy, Nile perceives what he calls “bloodlust.” This, understandably, disturbs Aggie. Yet this book project does sound more compelling than her current one. As multiple storylines unfold—surrounding FBI agent Brian Abbott’s (David Lyons) off-the-clock pursuit of Nile; Abbott’s affair with his supervisor (Hettienne Park); and

Nile and his father Martin’s (Jonathan Banks) controversial Manhattan construction project, Jarvis Yards—the question of whether Nile is really a murderer bleeds into Aggie’s soul searching.

Creator Gabe Rotter (*The X-Files*) and showrunner, writer, and executive producer Howard Gordon (*Homeland*) aren’t subtle in their references to both real events and prestige-TV touchstones. It’s impossible to look at Nile without seeing the late *Jinx* subject, real estate scion, and murderer Robert Durst. Even if Danes hadn’t mentioned *The Journalist and the*

Murderer—Janet Malcolm’s classic book on a homicide trial that doubles as a moral indictment of journalism—in publicity materials, its influence would’ve been obvious. Jarvis Yards is an alternate-universe Hudson Yards, Manhattan’s maligned elite megadevelopment; the movement that rises up to

stop it is led by a young progressive, Olivia Benitez (Aleyse Shannon), à la AOC fighting Amazon. Banks, best known for embodying the conflicted fixer Mike Ehrmantraut in *Breaking Bad* and *Better Call Saul*, repurposes

‘No one wants hope. They want gossip and carnage.’

his gruff demeanor to play a patriarch remarkably similar to *Succession*'s ruthless Logan Roy.

IT'S IN THE EXECUTION that *The Beast in Me* becomes more than a pastiche. The dialogue tends to be better than what we get from most TV thrillers. Little screen time is wasted. The themes are timely and well incorporated, if also a touch pretentious (Freud's death drive gets an extended exegesis). Director Antonio Campos (also an executive producer, along with Danes, Jodie Foster, and Conan O'Brien) knows when to accelerate an action sequence to heart-pounding effect but also when to prolong a tense interaction for maximum discomfort.

The most riveting scenes unfold between Danes and Rhys, whose portrayal of a man who can be charming at one moment, monstrous the next, and unreadable when it matters most calls back to his protean spy character in *The Americans*. In a bonkers scene that Rhys totally sells, Nile tears into a roast chicken with his bare hands, scarfing flesh and spitting bones as his guard dogs yield to their alpha. Where he is dynamic, Aggie is inert, just as trapped in her loneliness as she is in her house. The supporting cast is mostly great too. Snow makes you wonder whether Nina is as clueless as she seems. Park puts a fresh spin on the inappropriate boss. Morales makes us sympathize with Shelley, even as we yearn to see her give Aggie one more chance. If we must have another underwritten master-of-the-universe on TV, he might as well be played by Banks, who makes every part his own.

By the middle of the season, I wished Rotter and Gordon would delve deeper into the psychology of Aggie's attraction and repulsion toward Nile. I wanted more reason to be worried, as she is, that she really is a hateful person. But what isn't on the page is there in Danes' layered performance and those of other key cast members, as characters bound together by self-deceit. "You'd rather invent a murder than look in the god-damn mirror," says Shelley. She's talking to Aggie, but in the delusional world of *The Beast in Me*, she could be speaking to just about anyone. ▢

REVIEW

A seductive *Dangerous Liaisons* remix, with feminist intentions

There are no heroes in *Les Liaisons Dangereuses*, Pierre Choderlos de Laclos' 1782 novel of end-stage French aristocratic decadence. Its chief villain is Marquise Isabelle de Merteuil, a master manipulator who exploits her former lover the Vicomte de Valmont's resurgent desire for her with a wager that dooms them both. As a teenage Fiona Apple dryly noted: "It's a sad, sad world when a girl will break a boy just because she can."

The Seduction, HBO Max's deliciously acted, baroquely libidinous yet sneakily substantive first French-language series, fleshes out that world. Created by Jean-Baptiste Delafon and directed by Jessica Palud, it centers Merteuil, adding backstory that recasts her as a hurt woman fighting for the freedom men enjoy.

A fairy-tale cold open sees the young heroine (a magnetic Anamaria Vartolomei) flee a convent to marry her beloved—a union consummated with swooning tenderness. Then the credits roll. She awakens alone. Her husband doesn't exist; the man she slept with is really the rake Valmont (Vincent Lacoste, brooding like a Gallic Jeremy Allen White), who invented an identity and orchestrated a sham

wedding just to get her into bed. On the brink of suicide, she elects instead to penetrate the libertine circle of Valmont's aunt and accomplice, Madame de Rosemonde (Diane Kruger), ascending the aristocracy to torment the man who humiliated her. The aging Rosemonde has her own reasons for making this alliance. Rejected by her cruel lover, the Comte de Gercourt (*Emily in Paris*' Lucas Bravo), she plans to use the nubile newcomer as a bargaining chip.

And so the game of musical bedchambers begins. *The Seduction* teems with female-gaze revelry. This is historical bodice-ripping done right, with the occasional lost-in-translation moment (maybe "Hallelujah" is not yet a soundtrack cliché on the continent). Philosophy is as French as romance, though. The show grounds its hedonism in the epiphany that especially for women under patriarchy, sex can be an expression of love or a way of exerting power, but things get messy when you confuse the two. While one requires vulnerability, the other forbids it—and both paths to liberation become prisons. —J.B.

THE SEDUCTION airs Fridays on HBO Max



A jilted bride (Vartolomei) claws her way back from the brink of despair

Ken Burns The filmmaker on his 12-hour documentary *The American Revolution*, the importance of undertow, and what's next

Are there new ways of thinking about the American Revolution here? We are not applying a philosophy about the American Revolution to this. As we were finishing our Vietnam series, I said, "We're going to the Revolution next." The fact that there are no photographs and no newsreels can't inhibit us. We'll find new ways to tell the story. We followed re-enactors to collect a critical mass of footage so that we could give a sense of warfare, life in the 18th century, how newspapers were published, and how people spun cotton or wool. All of that is super important if you're going to wake up the past and ask it to tell us its secrets.

What were you most surprised to learn? There are powerful stories at both ends of the spectrum. John Peters, the loyalist that we follow, kills his best friend growing up, who was attacking him. In the Battle of Saratoga, two brothers—one on the British side and one on the American side—suddenly realize that they're fighting against one another and run down to the river that separates the two armies, jump in, and embrace midstream. The American Revolution is the most important, consequential revolution in history. We then spend the next 12 hours trying to prove it, not in a didactic way, but in a narrative way, with intimate moments.

You look at how different populations experienced this period. Tell us about some. How did Native Americans influence the American Revolution? We begin with a prologue about how they organized themselves into a union of six tribes, the Haudenosaunee. Their success inspired Benjamin Franklin to see if he could make that happen in the U.S.

Why a documentary about the American Revolution now?

I said we were going to do this nine years and 11 months ago. I'm really happy that it came out far in advance of the 250th anniversary of the Declaration of Independence [July 4, 2026], to make sure that we're not drowning in fife and drum and saccharine things that often attend anniversaries.



What role did women play? Women, who are a majority of the population, are central to the success of the Revolution. They followed the armies on the battlefields, and at home, they were running businesses and farms. Mercy Otis Warren wrote the first history of the Revolution.

How did Black experiences vary? There are many enslaved Africans who make a decision to side with the British because they're offering freedom to slaves of rebels. (Slaves of loyalists don't get freedom.) Then there's James Forten, a free Black young man when he hears the first public reading of the Declaration of Independence in Philadelphia. While fighting for the revolutionary cause, he's captured and sent to a notorious prison ship. He survives and writes about the promise of liberty.

Are there myths you want to debunk? Paul Revere did not yell, "The redcoats are coming." He yelled, "The regulars are coming out." Betsy Ross is never mentioned in our film. We don't know who made the first flag. But the documentary is not debunking as much as it is trying to tell a compelling narrative that has to leave out some of the tropes. We don't like a Shakespeare play unless it's got undertow and dimension. We don't like *Succession* or *Yellowstone* unless it has a variety of complicated, sometimes contradictory characters. That's even more true of the thing that we call history.

What's your next project? One is *LBJ & the Great Society*. Another is *Emancipation to Exodus*, on Reconstruction. I want to do something on the CIA, something on Obama; I've already conducted eight two-hour interviews with him. If I were given 1,000 years to live, I would not run out of topics. —OLIVIA B. WAXMAN